PRINCIPLES OF RAILWAY TRANSPORTATION

THE MACMILLAN COMPANY
NEW YORK · BOSTON · CHICAGO · DALLAS
ATLANTA · SAN FRANCISCO

MACMILLAN & CO., LIMITED
LONDON · BOMBAY · CALCUTTA
MELBOURNE

THE MACMILLAN CO. OF CANADA, LTD.
TORONTO

PRINCIPLES OF RAILWAY TRANSPORTATION

BY

ELIOT JONES, PH.D.

PROFESSOR OF ECONOMICS IN STANFORD UNIVERSITY; AUTHOR OF "THE TRUST PROBLEM IN THE UNITED STATES," "THE ANTHRACITE COAL COMBINATION IN THE UNITED STATES"

New York
THE MACMILLAN COMPANY
1925

All rights reserved

PRINTED IN THE UNITED STATES OF AMERICA

COPYRIGHT, 1924,
BY THE MACMILLAN COMPANY.

Set up and electrotyped. Published June, 1924. Reprinted May, 1925.

TO MY MOTHER
CARRIE GRINNELL JONES

PREFACE

This book deals with the principles of railway transportation. It is divided into six parts. Part I contains an introduction to the subject; Part II treats of rates and rate making; Part III describes the state and federal legislation prior to the entrance of the United States into the World War; Part IV discusses certain major problems, such as valuation, securities, combination, receivership and reorganization, service, and labor; Part V chronicles the war experience; and Part VI presents an account of post-war developments, including an extended consideration of the advantages and disadvantages of government ownership and operation.

The book is designed primarily to serve the needs of teachers of elementary courses in railway transportation. The aim has been to set forth the essentials of the railroad problem with clearness, accuracy, and impartiality. It is hoped that the book will appeal also to the general reader, who may be presumed, in these days of interminable railroad controversies, to desire an unbiased understanding of the fundamentals of the railroad situation.

The references appended at the end of each chapter are intended to serve as collateral reading for the student and general reader. Not all works of merit have been listed, but only those deemed most suitable for the purpose in view.

To the following individuals, all of whom read one or more chapters of the manuscript, I wish to express my indebtedness: A. F. Coyle, editor of the Brotherhood of Locomotive Engineers Journal; Stuart Daggett, Dean of the College of Commerce of the University of California; F. H. Dixon, Head of the Department of Economics of Princeton University; S. O. Dunn, editor of the Railway Age; R. E. Heilman, Dean of the Northwestern University School of Commerce; J. H. Parmalee, Director of the Bureau of Railway Economics; H. B. Vanderblue, Professor of Business Economics at Harvard University; and A. C. Whitaker, Professor of Economics at Stanford University. To Connell Clifford, In-

structor of Economics at Stanford University, who read the entire manuscript, my indebtedness is even greater.

Among my counselors there were those who urged me to enter the lists more definitely on behalf of specific policies and interests, but this advice I have not seen fit to accept. My endeavor throughout has been to maintain an objective viewpoint and a strictly scientific attitude, and to serve no interest but the paramount public interest.

ELIOT JONES.

Stanford University,
April, 1924.

CONTENTS

PART I

INTRODUCTION

CHAPTER I

GENERAL INTRODUCTION

PAGE

Magnitude of the industry 3
Contribution of the railway to modern civilization 5

CHAPTER II

FINANCIAL INTRODUCTION

Capital stock 9
- Nature of 9
- Market value and par value 10
- Kinds of 12
  - Common stock 12
    - Explanation of 12
    - Importance of 13
    - Speculative character of 13
  - Preferred stock 14
    - Preference in distribution of earnings 14
    - Preference in distribution of assets 17
    - Preference in voting power 17
    - Advantages of 18

Bonds and notes 19
- Bonds 19
  - Nature of 19
  - Types of (classified according to security) 20
    - Mortgage bonds 21
    - Collateral trust bonds 23
    - Equipment obligations 26
    - Income bonds 28
    - Debenture bonds 30
  - Types of (classified according to purpose of issue) 31
  - Types of (classified according to conditions of maturity) 32
- Notes 32
- Advantages of borrowing 32

CHAPTER III

HISTORICAL INTRODUCTION

PAGE

Transportation conditions in 1789 36
Turnpikes 37
Canals and improved riverways 38
Railroads 43
Early tramways 43
Early railroads 44
Baltimore and Ohio Railroad 44
South Carolina Railroad 46
Decade from 1830 to 1840 47
New construction 47
Characteristic features of decade 51
Railroads local enterprises 51
Experimental in character 51
State aid 51
Opposition from other transportation agencies 52
Decade from 1840 to 1850 52
New construction 52
Railways supplement waterways 53
Decade from 1850 to 1860 53
New construction 53
Characteristic features of decade 56
Creation of through railway systems 56
Supremacy of railroads over canals 56
Congressional land grants 56
State railways sold to private parties 57
Decade from 1860 to 1870 58
New construction 58
Characteristic features of decade 58
Combination of end-to-end lines 58
Completion of first transcontinental line 58
Congressional land grants to western railways 60
Reliance upon competition to protect public 61
Improvements in railway operation 61
Organization of railroad unions 61
Decade from 1870 to 1880 61
New construction 61
Characteristic features of decade 62
State regulation and Granger cases 62
Rate wars and railroad failures 63
Rate and pooling agreements 63
Reductions in rates 63
Discriminations in rates 63
Decline of waterways 63
Economies in railway operation 63

PAGE
Railroads, Decade from 1880 to 1890 64
New construction 64
Characteristic features of decade 65
Federal regulation 65
Improvements in operation 66
Decade from 1890 to 1900 66
New construction 66
Characteristic features of decade 66
Reduction in rates 66
Railroad failures 66
Safety appliance legislation 66
Creation of huge combinations 67
Court decisions 67
Period from 1900 to present 67
New construction 67
Characteristic features of period 68
Federal legislation 68
Service problems 68
Labor disputes 68

PART II

RATES AND RATE MAKING

CHAPTER IV

THE THEORY OF RAILROAD RATES

Railroad industry one of increasing returns 71
Statement of the principle 71
Proof of the principle 72
Study of railroad expenditures 72
Fixed charges 73
Operating expenses 73
Summary (tabular presentation) 77
Qualification of the principle 79
Railroad industry subject to law of joint costs 82
Statement of the law 82
Application to railroads 85
Why cost principle is inadequate 85
Use to be made of it 86
Lower limit of rates 86
General level of rates 86
Value of service principle (charging what the traffic will bear) 87
Advantages of 88
Objections to 89

CHAPTER V

RUINOUS COMPETITION

PAGE
Explanation of tendency toward ruinous competition 91
Large amount of fixed plant 91
Specialized character of plant 94
Small number of competitors 95
Illustrations of rate wars 95
Restraints upon competition preventing it from becoming ruinous. 97
Rate agreements 97
Pooling agreements 98
Traffic associations to fix rates 100
Combinations 102
Legislative enactments 102
Changed economic conditions 103

CHAPTER VI

LOCAL DISCRIMINATION

Discrimination explained 105
Varieties of 105
Local discrimination explained 105
Illustrations of 106
Explanation of 108
Evils of 111
Justification of 112
Factors tending to reduce local discrimination 113
Combination movement 113
Long and short haul legislation 113

CHAPTER VII

PERSONAL DISCRIMINATION

Personal discrimination defined 116
Explanation of 116
Evils of 118
Prevalence of 119
Act of 1887 119
Description of principal discriminatory devices 120
Elkins Act (1903) 126

PAGE
Hepburn Act (1906) 127
Present situation 127

CHAPTER VIII

THE CLASSIFICATION OF FREIGHT

Why classification is necessary 128
How to ascertain the rate on a shipment 128
Classification 128
Freight Tariff 129
Development of classifications 129
Description of leading classifications 130
Bases of classification 133
Value of service 133
Cost of service 134
Inequalities and discriminations in classification 137
Those arising out of inherent difficulties 137
Those arising out of conditions under which classifications were made 139
Legislation affecting classification 141
Uniform classification 142

CHAPTER IX

RATE SYSTEMS

Introduction 147
Trunk line rate system 148
Characteristic feature of trunk line rate system 149
Conditions that gave rise to 149
Description of 151
Effect of on the several groups 153
Relation to differential controversy 154
Modification of 155
Success of 157
Rate system on shipments to and from New England 157
Southern rate system 157
Characteristic feature of 157
Description of basing point system 158
Factors influencing choice of basing points 159
Analysis of claim that low rates to basing points are necessary because of commercial competition 161
Local rates 162
Miscellaneous features of southern rate system 163
Revision of southern rate system by Interstate Commerce Commission 163

PAGE

Transcontinental rate system 166
Characteristic features of 166
Blanket rate system 167
Description of 167
Reasons for adoption of 168
Discrimination against the intermediate points 171
Description of 171
Injurious effects of 173
Cause of 173
Amendment of long and short haul clause in 1910 175
Decisions of Interstate Commerce Commission under the amended clause 175
Nevada Railroad Commission case and Spokane case (1911) 176
Effect of opening of Panama Canal 178
Effect of slides and the War 179
Transcontinental Cases (1922) 180

PART III

LEGISLATION TO THE ENTRANCE OF THE UNITED STATES INTO THE WORLD WAR (APRIL, 1917)

CHAPTER X

STATE REGULATION

The right to regulate 185
Regulation prior to the seventies 185
Regulation during the seventies 186
Explanation of the demand for effective regulation 187
Description of the Granger legislation 189
Effects of the Granger legislation 191
Decisions of the Supreme Court in the Granger cases (1876) 192
The right of judicial review 194
Denial of the right 194
The Granger cases (1876) 194
Suggestion of the right 195
Stone *v.* Farmers' Loan and Trust Company (1886) 195
Assertion of the right 196
Chicago, Milwaukee and St. Paul *v.* Minnesota (1890) 196
Elaboration of the right 197
Reagan *v.* Farmers' Loan and Trust Company (1894) 197

PAGE
The conflict between state and federal authority 199
Decisions of the Supreme Court 200
The Granger cases (1876) 200
Wabash case (1886) 201
Effect of this decision on course of federal and state legislation (1887–1913) 202
Minnesota Rate cases (1913) 203
Shreveport Rate cases (1914) 205
Later developments 208

CHAPTER XI

THE ACT TO REGULATE COMMERCE OF 1887 AND ITS INTERPRETATION

Conditions leading to the passage of the act 210
Act of 1866 210
Act of 1873 210
Demand for lower rates 211
Report of Windom committee 212
Demand for nondiscriminatory rates 213
Report of Cullom committee 213
Contributory factors 214
Decision of Supreme Court in Wabash case 215
Provisions of the act 215
Judicial interpretation 221
Power to compel testimony of witnesses 221
Counselman case (1892) 221
Brown case (1896) 222
Brimson case (1894) 222
Enforcement of the orders of the Commission by the courts 223
Power of the Commission to fix maximum rates 225
Social Circle case (1896) 225
Cincinnati Freight Bureau case (1897) 225
Power of the Commission under the long and short haul clause 227
Import Rate case (1896) 227
Alabama Midland case (1897) 228

CHAPTER XII

THE HEPBURN ACT OF 1906

Conditions that gave rise to a demand for further legislation 231
Expedition Act (1903) 233
Elkins Act (1903) 233

PAGE
Hepburn Act (1906) 236
Special events that contributed to its passage 237
Provisions of the act 237
Organization of the Commission 237
Extension of its jurisdiction 238
Accounts 239
Discriminations 240
Rates 243
Procedure of enforcement 245
Judicial interpretation of the Hepburn Act 247

CHAPTER XIII

THE MANN-ELKINS ACT OF 1910

Provisions of the act 249
Extension of the Commission's jurisdiction 249
Suspension of proposed changes in rates 249
Reason for such legislation 250
Provisions of the law 250
Decisions of Commission in rate increase cases 252
Long and short haul clause 255
Procedure of enforcement 256
Creation of Commerce Court 256
Abolition of the court 258
Miscellaneous provisions 260

CHAPTER XIV

MISCELLANEOUS LEGISLATION TO APRIL, 1917

Panama Canal Act (1912) 262
Valuation Act (1913) 264
Clayton Act (1914) 268

PART IV

SOME RAILROAD PROBLEMS

CHAPTER XV

REASONABLE RATES: VALUATION AND THE FAIR RATE OF RETURN

Introductory 275
Fair value of the property 277
Market value 278

PAGE
Fair value of the property, Original cost of construction 280
Meaning of 280
Advantages of 282
Objections to 286
Cost of reproduction 288
Meaning of 288
Method of ascertaining 290
Objections to 292
Fluctuating character of 292
Treatment of land values 293
Danger of a padded valuation 296
Overhead charges 296
Going value 297
Franchise value 299
Good will 300
Conclusion 300
Fair rate of return 302

CHAPTER XVI

REGULATION OF SECURITIES

Necessity of regulation 309
Explanation of overcapitalization—principal bases of capitalization 309
Occasions on which overcapitalization has arisen 311
Construction 311
Capitalization of current expenses 312
Stock dividends 313
Combination 314
Financial reorganization 314
Regulation necessary to protect public 315
Against unreasonable rates 315
Against inadequate service 317
Regulation necessary to protect investors 318
Necessity of federal regulation 322

CHAPTER XVII

COMBINATION

Brief history of railroad combination 325
Leading types of combination 328
Consolidation or merger 328
Lease 330
Stock ownership 332

PAGE
Description of particular combinations 336
New York, New Haven and Hartford 336
New York Central 336
Pennsylvania 337
Southern 338
Northern Securities Company 339
Union Pacific 341
Legal status of combinations 345
Traffic association cases (1897, 1898) 345
Northern Securities case (1904) 345
Union Pacific-Southern Pacific case (1912) 348
Southern Pacific-Central Pacific case (1922) 350
Esch-Cummins Act of 1920 351

CHAPTER XVIII

RECEIVERSHIP AND REORGANIZATION

Extent and frequency of railroad failures 353
Principal causes of failure 354
Operation of insolvent railroads by receivers 360
Application for a receivership 360
Duties of receivers 362
Issuance of receivers' certificates 363
Termination of receivership 363
Reorganization plan 364
Formation of general reorganization committee 364
Ascertainment of essential facts 365
Objects of reorganization 365
Obtainment of necessary funds 365
Reduction of fixed charges 368
Publication of plan 371
Foreclosure sale 372
Creation of new corporation 373

CHAPTER XIX

SERVICE

Safety of service 375
Importance of 375
Accident statistics 376
Safety legislation 379
Safety Appliance Act (1893) 379
Employers' Liability Act (1906, 1908) 382
Hours of Service Act (1907) 383
Transportation of Explosives Act (1908) 384

PAGE
Safety of service, Ash Pan Act (1908) 384
Accident Reports Act (1910) 384
Boiler Inspection Act (1911) 384
Esch-Cummins Act (1920) 385
Safety measures of the railroads 385
Remedies 386
Adequacy of service 388
Car shortage and car surplus statistics 388
Causes of car shortage 390
Distribution of cars in period of shortage 394
Among railroads 394
Among shippers 396
Legislation 399
Esch-Pomerene Act (1917) 399
Esch-Cummins Act (1920) 399
Economy of service 400
Tests used to measure economy of operation 400
Average trainload 400
Significance of 400
Increase in 401
Limitations upon growth of 403
Factors contributing toward growth of 404
Average carload 405
Increase in 406
Use of larger cars 406
Economy of large cars 407
Use of steel cars 408
Miscellaneous 409
Legislation 409

CHAPTER XX

LABOR DISPUTES

Railroad labor organizations 412
Formation of 412
Description of train service brotherhoods 413
Their aims and accomplishments 415
Federal legislation dealing with labor disputes 416
Act of 1888 416
Provisions of 416
Pullman strike (1894) 417
Erdman Act (1898) 418
Provisions of 418
Cases settled under 419
Description of some labor controversies 420

PAGE
Further federal legislation 426
Newlands Act (1913) 426
Provisions of 427
Cases settled under 427
Adamson Act (1916) 428
Reasons for its passage 428
Provisions of 430
Judicial interpretation of 430

PART V

RAILROADS AND THE WAR

CHAPTER XXI

PRIVATE OPERATION DURING 1917

Creation of Railroads' War Board (April 11) 435
Magnitude of its task 436
Difficulties encountered 437
Measures adopted 438
Federal legislation 440
Esch-Pomerene Act (May 29) 440
Enlargement of Interstate Commerce Commission Act (August 9) 441
Priority Act (August 10) 441
Accomplishments of Railroads' War Board 443
"Revolutionary" measures in eastern territory (November 24) 443
Recommendations of Interstate Commerce Commission (December 5) 444
Proclamation of President Wilson (December 26) taking over the railroads on December 28 445

CHAPTER XXII

GOVERNMENT OPERATION FROM 1918 TO MARCH 1, 1920

Introductory 448
Federal Control Act 448
Organization of the Railroad Administration 451
Operation during the war 453
Measures designed to increase efficiency 454
Labor policy 460
Rate policy 464
Operating results 465
Financial results 466

PAGE
Operation after the war ... 467
Introductory ... 467
Operating policies ... 469
Labor policy ... 470
Financial results ... 472
Rate policy ... 475
Conclusion ... 476

PART VI

RAILROADS AND RECONSTRUCTION

CHAPTER XXIII

PROPOSED SOLUTIONS OF THE RAILROAD PROBLEM

Introductory ... 481
Director General McAdoo ... 481
Interstate Commerce Commission ... 483
Director General Hines ... 485
Association of Railway Executives ... 488
National Transportation Conference ... 490
Railroad Brotherhoods (Plumb plan) ... 491
Provisions of ... 492
Advantages of ... 494
Defects of ... 495

CHAPTER XXIV

GOVERNMENT OWNERSHIP AND OPERATION

Objective ... 499
For government ownership ... 499
Promotion of public welfare ... 499
Reduce rates ... 500
Improve service ... 500
Improve labor conditions ... 501
Diminish taxes ... 501
Emancipate the people ... 502
Against government ownership ... 502
Operation for profit involves public service ... 502
Profits available for promotion of public welfare less than generally supposed ... 502

PAGE

Economy of management ... 504
For government ownership ... 504
Saving in interest charges ... 504
Savings due to unified management ... 505
Savings due to abandonment of regulation ... 505
Against government ownership ... 505
Scarcity of requisite administrative ability ... 506
Failure to choose and retain capable administrators ... 506
Burden of centralized administrative machinery ... 507
Lack of incentive to initiative ... 508
Retardation of technical progress ... 509
Necessity of placating politicians and employees ... 511

Politics ... 511
For government ownership ... 511
Baneful effect of railroads upon politics ... 511
Against government ownership ... 513
Baneful effect of politics upon railroads ... 513
Appointments ... 513
Construction and operation ... 514
Labor and rates ... 515

Labor ... 515
For government ownership ... 515
Improved relations with labor ... 515
Avoidance of strikes ... 516
Against government ownership ... 516
Creation of a favored class ... 516
Strikes eliminated, if at all, at too great a price ... 519

Rates ... 521
Personal discrimination ... 521
Local discrimination ... 522
Stability of rates versus flexibility of rates ... 523

Securities ... 525

Effectiveness of regulation ... 526

Foreign experience ... 528
For government ownership ... 528
Widespread adoption of ... 528
Success of ... 530
Against government ownership ... 536
Government ownership adopted in foreign countries for reasons that have no force in this country ... 536
Government ownership not successful in foreign countries 538
Comparisons between foreign countries and United States of doubtful value ... 538

Prerequisites to successful government management ... 541

CHAPTER XXV

THE ESCH-CUMMINS ACT OF 1920

PAGE
Introductory ... 545
Provisions of the act ... 545
Transitional provisions ... 545
Termination of federal control ... 545
Liquidation of U. S. Railroad Administration ... 546
Funding of railroad indebtedness ... 546
Loans to railroads ... 546
Continuation of guarantee to September 1, 1920 ... 546
Rates ... 547
Rule of rate making ... 547
Division of excess earnings ... 550
Minimum rates ... 552
Long and short haul clause ... 552
Regulation of intrastate rates ... 553
Suspension of proposed changes in rates ... 554
Intercorporate relations ... 554
Consolidation ... 554
Acquisition by one carrier of control over another ... 556
Pooling ... 556
Interlocking directorates ... 556
Securities ... 557
Service ... 558
Labor disputes ... 560
Conclusion ... 562

CHAPTER XXVI

PRINCIPAL DEVELOPMENTS SINCE THE PASSAGE OF THE ESCH-CUMMINS ACT

Transition to private operation ... 564
Labor disputes and rate adjustments ... 565
Award of Labor Board raising wages ... 566
Decision of Interstate Commerce Commission raising rates ... 566
Failure of new rates to produce adequate revenues ... 569
Refusal of some state commissions to increase intrastate rates ... 569
Decline in volume of traffic ... 570
Controversy over railroad boards of labor adjustment ... 571
Controversy over national agreements ... 572
Award of Labor Board reducing wages ... 575
Threatened railroad strike ... 576
Decision of Interstate Commerce Commission reducing rates ... 578
Award of Labor Board reducing wages of shopmen and others ... 580

PAGE
Labor disputes and rate adjustments, Strike of shopmen 580
Award of Labor Board raising wages of maintenance of way men 585
Agreements with train service brotherhoods 586
Criticism of partisan character of Labor Board 587
Criticism of railroads by laborers and farmers 588
Service 589
Securities 590
Intercorporate relations 593
Consolidation 593
Lease or stock ownership 596

INDEX 599

LIST OF MAPS

FACING PAGE

Map of the United States 36
Map of railroads in the United States in operation in 1840 .. 48
Map of railroads in the United States in operation in 1850 .. 52
Map of railroads in the United States in operation in 1860 .. 54
Map of the United States showing railroads in 1870 58
Map of the United States showing railroads in 1890 64
Map of the railroads in the United States in 1921 66
Map showing the rate zones established by the Interstate Commerce Commission in the transcontinental rate controversy 177

PART I

INTRODUCTION

PRINCIPLES OF RAILWAY TRANSPORTATION

CHAPTER I

GENERAL INTRODUCTION

The far-reaching influence of railways upon our national life can hardly be exaggerated. President Harding gave voice to this thought in his message to Congress of December 8, 1922, in which he said, "I know of no problem exceeding in importance this one of transportation." The importance of railways may be indicated by a brief statistical summary showing the magnitude of the industry, and by a short statement of the contribution of the railway to modern civilization.

Magnitude of the Industry

In 1920 the railroads of this country comprised a system of over one-quarter of a million miles of road, reckoning one mile of double track as only one mile of road.[1] The magnitude of this system becomes clear when it is realized that this is equal to a ten-track railroad around the world, and to a seventy-eight track railroad from New York to San Francisco. The country's mileage was greater than the combined mileage of the countries of Europe, and equal to more than one-third of the mileage of the world.

The class I railroads (those having annual operating revenues in excess of $1,000,000) had on the average over 2,000,000 employees, who worked an aggregate of 5,446,000,000 hours, and received a total compensation of $3,681,000,000. There was one railway employee for every 52 persons, one for every 20½ persons gainfully employed, and one for every 15½ adult males. Counting four to a family, over 8,000,000 persons were in the families of railway employees, or nearly 8 per cent of the population. Un-

[1] The trackage, including yard track and sidings, exceeded the miles of road by about sixty per cent.

doubtedly another 8,000,000 were indirectly dependent upon the railway industry, including for example, the producers of locomotives, cars, rails, ties, and fuel.

The capitalization of the railroads was $20,098,000,000, of which amount $11,255,000,000 was funded debt and $8,843,000,000 was capital stock.[1] The capitalization of the railroads exceeded the capital, surplus, and undivided profits of the 8,030 national banks (June 30, 1920) by more than seven times; and the capital, surplus, and undivided profits of the 22,109 state banks, savings banks, trust companies, etc., by more than six times. Upon their funded (and unfunded) debt the railroads paid $553,000,000 in interest, and upon their capital stock they paid $329,000,000 in dividends—a total of $882,000,000. The payments in interest and dividends exceeded the aggregate annual expenditures of the national government, exclusive of postal expenses, in the prewar period. A pamphlet issued by the Guaranty Trust Company (in 1918) is authority for the statement that the railroads are a source of income for 300,000 bondholders and 600,000 stockholders; and that the security of 34,000,000 insurance policy holders and 11,000,000 savings bank depositors is largly dependent on railroad earnings.

The class I railroads had operating revenues of $6,178,000,000, or over $58 for every man, woman, and child. To the total revenue the freight traffic contributed $4,328,000,000, the passenger traffic $1,288,000,000, the mail traffic $151,000,000, and the express traffic $143,000,000.

The class I railroads had in service 2,300,000 freight cars, or one car for every 46 persons. These cars if placed end to end would have made a freight train about 13,000 miles long, or over four solid trains of cars reaching from New York City to San Francisco. These cars carried 1,255,000,000 tons of revenue freight (excluding tonnage received from connecting roads), or 2510 billion pounds. They carried 410 billion tons one mile, or 820,000 billion pounds.[2] More than half of the total tonnage

[1] These figures are for the railway capital actually outstanding.

[2] The following illustration shows the magnitude of the service annually rendered by American railroads. "If Father Adam, according to Biblical chronology, had started a mixed train running down through the centuries, at a speed of 22 miles per hour, carrying 40 passengers and 346 tons of freight, and if that train had never stopped from then to now, it still would not have covered as great a distance or performed as large a passenger or freight service

consisted of products of mines, and more than half of these mineral products, in turn, consisted of bituminous coal.

The class I railroads had in service 53,500 passenger cars, or one for every 1976 persons. These cars carried 1,234,000,000 revenue passengers, equal to more than eleven times the population of the United States. The revenue passenger miles (number of passengers traveling one mile) was 46,848,000,000, or an average of over 443 miles per capita.

Further statistical evidence might be presented, but enough has been said to show the outstanding importance of the industry.

Contribution of the Railway to Modern Civilization

The railroads have enabled the output of commodities to be greatly increased and the costs of production to be greatly reduced; and as a result commodities that in earlier generations were regarded as luxuries are now considered necessities. The increased output and the reduced costs are attributable in considerable measure to the economies of large-scale production, the achievement of which is dependent, of course, upon economical means of transportation. Obviously, production can not be carried on upon a large scale, thus securing the advantages that result from the division of labor and the use of machinery, unless the necessary raw materials can be cheaply delivered at the plant and the finished products cheaply distributed to the consumers. Unless the raw materials lie close to the consuming markets, which usually is not the case, large-scale producers must either obtain their raw materials from a distance, or transport their finished products to distant markets, and perhaps both. The railroads by offering an improved means of transportation have made this possible to an extent not dreamed of a hundred years ago. The increased output and the reduced costs are also attributable in large measure to the concentration of production at those points where conditions are most propitious. Thus, Boston is the center of the shoe industry, Pittsburgh of the steel industry, Chicago of the meat-packing industry, and Minneapolis of the flour industry. Cotton is grown in the southern states, wheat in the Mississippi valley states (predominantly), and citrus fruits in California and Florida. Most of these articles are produced in numerous

as the trains of the United States do in a normal year." Showalter, W. J., *The National Geographic Magazine*, 43, p. 353.

places, yet there is a tendency for their production to be localized in certain favorable areas. This is called the geographical or territorial division of labor. It is clearly an immense gain if the people of a particular region can employ their energy primarily in the production of those things for which that region is best suited, since in this way they and those with whom they exchange get more articles to consume on better terms. The attainment of this end, upon which much of our material prosperity is founded, is due, of course, largely to the railways, which have been aptly described as "the arteries through which flows the life-blood of the world's commerce."

With the growth of large-scale production and the localization of industry there has developed an ever increasing dependence of the entire population upon railroad transportation. Previous to the coming of the railway each section of the country lived largely unto itself. There was relatively little intercommunication, and the exchange of products was limited to a degree that is difficult for the modern generation to realize. There was little intercommunication, because travel was expensive, fatiguing, and sometimes even dangerous. There was little exchange of products, because transportation was costly, slow, and hazardous. The railway, once it had passed beyond the experimental stage, introduced a new order. The railway made it possible for people to travel in comfort and safety from one end of the country to the other; and by bringing the people into contact with one another and with new conditions broadened their outlook, and diminished sectional prejudice and vanity. The railway also made it possible for goods to be carried in enormous quantities at low rates, and thus destroyed economic self-sufficiency. Thousands of rural communities, constituting the backbone of the country, were enabled through the railway to enjoy the advantages of coöperative endeavor; and even isolated settlers were able to draw for the satisfaction of their wants upon the storehouses of the world. The railway has thus become not only an integral part, but also a fundamental part, of our economic and social structure.

The railway has strengthened not only the economic and social unity of the people, but also their political unity. The uniting of the East and the West by the building of the Union Pacific and Central Pacific railroads practically ensured the indissolubility of the Union. The Civil War was fought at an

enormous cost in lives and material to prevent the North and South from being rendered asunder, and it took years for the wounds of the conflict to heal. Through the medium of the railway the East and West were bound together by lasting ties with almost no cost in lives and relatively little in material. This is much the better way, since there are no wounds to heal, figuratively speaking. The railway has also been a powerful contributing factor in the distribution and assimilation of that vast throng of immigrants who have crowded to our shores, and thus in fusing them in the national melting-pot. Furthermore, it has promoted unity by the elevation of the federal government to a position of greater importance. The railway increasingly became an instrument of interstate commerce, in the regulation of which state authority proved inadequate. Perforce the people turned to the national government for the exercise of an authority adequate to deal with what became a national problem, and this dependence of the people upon the federal government increased their interest in the nation as distinct from the several states. The Nation is now one and indissoluble, but he would be rash indeed who would assert that this would now be the case had it not been for the unifying influence of the railway.

Unfortunately the influence of the railway has not been altogether beneficial. The railway must accept its share of the responsibility for the evils that accompany modern industrial life—the concentration of people in large establishments, where the conditions of labor are frequently hard and deadening, and where exploitation of the weak and poor is often practiced. The railway is of course not directly responsible for these evils, but it is indirectly responsible through its effect on the organization of the industrial structure. It would be one-sided to give the railway credit for promoting large-scale production, and yet not hold it responsible in any way for the evils that have accompanied large-scale production. The railway has made possible the modern city, which because of the conditions of life of a large proportion of its inhabitants can not be regarded as an unmixed good. The railroads, moreover, have exerted a corrupting influence upon politics and morals. The stakes were enormous, and to win them wholesale corruption of legislators, judges, and others in high places was resorted to. The railroads

have made fortunes for thousands of their owners, and brought losses to other thousands, thus accentuating the evils associated with gross inequalities in the distribution of wealth. The railroads have discriminated in favor of certain towns and against others, causing some to flourish and some to languish. They have discriminated in favor of certain shippers and against others, enabling some to reap enormous profits and perhaps develop into monopolies, and throwing others into insolvency. These discriminations were sometimes made because they were believed to be in the interest of the railroad; and sometimes because they were in the interest of railway officials who had private interests to serve, whether as land owners, manufacturers or producers, or merely as Wall Street manipulators.

The railway is thus an indispensable adjunct of modern civilization with immense possibilities for good and evil. Consecrated to the public welfare it is a highly valuable instrument of human progress; left to its own devices, uncontrolled and unregulated, it can do untold harm. The problem confronting the people throughout the last two or three generations has been: how best to bring the railroads under control, so as to enjoy the advantages of railway transportation without suffering from eradicable evils. The struggle to achieve this result has been a long one, and is not yet ended. It will be our task in this book to set forth the essentials of the struggle, in the hope that the reader will acquire an intelligent and unbiased understanding of the railroad problem in its larger aspects. We propose no permanent solution; indeed, it may well be that there is no permanent solution. The policy that best meets the needs of to-day may not be suited for to-morrow. Yet we hope to supply the reader with the essential background, in order that he may be able to visualize the problem, and to modify his views as to the solution from time to time as changed conditions appear to require a different policy.

REFERENCES

Johnson, E. R. and Van Metre, T. W.: *Principles of Railroad Transportation*, ch. 1 (1921).

Knapp, M. A.: "Social Effects of Transportation," *Annals of the American Academy of Political and Social Science*, vol. 20, pp. 1–15 (July, 1902).

Showalter, W. J.: "America's Amazing Railway Traffic," *The National Geographic Magazine*, vol. 43, pp. 353–404 (April, 1923).

CHAPTER II

FINANCIAL INTRODUCTION

In this chapter we shall describe the principal kinds of railroad securities. In a later chapter [1] we shall point out the problems that arise through the issuance of securities in excessive amounts, and consider the advisability of federal or state regulation of securities.

Railroad securities fall into two major groups: (1) capital stock; (2) bonds and notes. The holders of capital stock (called stockholders) are the owners or proprietors of the corporate enterprise, whereas the holders of bonds and notes are creditors.[2] The degree of ownership (or proprietorship) of each stockholder is established by the proportion that his shares are of the total number of shares outstanding; and the aggregate of these shares constitutes the railroad's capital stock. The extent of the claim of each bondholder (and noteholder) on the railroad is established by the face (or par) value of the certificates of indebtedness held by him; and the aggregate of these certificates constitutes the railroad's funded indebtedness. The capital stock and the funded debt together constitute the capitalization. The proportion of the capitalization that stocks and bonds severally comprise varies from time to time, and is different for different railroads; but at the present time somewhat less than half of the aggregate capitalization of the American railroads consists of stocks, and therefore somewhat more than half consists of bonds (and notes).

Capital Stock

First as to capital stock. In the eyes of the law a share of stock is a certificate of ownership of the corporation, the degree of ownership depending, as already stated, on the number of shares outstanding. Thus, if a railroad corporation has issued a million

[1] Ch. 16.

[2] We say creditors rather than *the* creditors, because the bondholders and note holders are not the only creditors. The obligation of the railroad to its other creditors comes under the head of floating debt. Cf. p. 365.

shares of stock, all of one class, the owner of one share may be said to be an owner to the extent of one-millionth. This does not mean, of course, that the owner of one share can take one-millionth of the property of the railroad, to be disposed of as he sees fit. The interest of a stockholder in a corporation is always an undivided interest; that is, he owns his proportion of all the property, but he does not own any particular piece of property. Were a stockholder allowed to take a part of the property as his own, the railroad obviously might find itself quite unable to supply the service of transportation which it was organized to provide. What the ownership of shares of stock does represent is a right to participate (1) in the control, as by the election of directors to manage the property; (2) in the profits, that is to share in such dividends as the directors deem it advisable to declare; and (3) in the unattached assets of the company (in the event of liquidation). The ownership of stock also involves the risk that the corporation may not prove sufficiently profitable to pay dividends to its stockholders, but all that the individual stockholder stands to lose is the amount of his investment (or the face value of the stock, in case it was not paid for in full). This limitation of risk results from the "limited liability" enjoyed by the holders of stock in a corporation. Whereas a member of a partnership is usually liable for all the debts of the firm, the holder of stock in a corporation is not liable (with a few exceptions) for any of its debts. The corporation in order to pay its debts may be compelled to use the funds contributed by the stockholders, in which event the stock may become worthless, but if the stock when issued was paid for in full the stockholders can not be compelled to make any further contributions. The risk of the stockholder is limited also by the fact that his shares are transferable. His shares, representing his right of proprietorship, can be disposed of to some one else, who is willing to assume the risks of ownership. Obviously, however, the sale of the shares merely shifts the risk to other parties; it does not lessen, as the principle of limited liability does, the aggregate risk incurred by the stockholders as a body. Nevertheless the possibility of transferring the shares makes investors more willing to subscribe to the stock of corporate enterprises.

Stock has a market value and also a face (or par) value. The market value is that registered in the market, usually the Stock

Exchange. The par value is that stated on the face of the certificate of stock. The incorporators are generally permitted to place the par value at any figure they desire, and accordingly there is a great diversity of practice in this regard. In the case of railroads, however, the par value is almost always $100 per share, though a few railroads, notably the Pennsylvania, the Lehigh Valley, and the Reading, have par values of $50. The market value and the par value need not coincide; in fact, they seldom do. This is because the market value registers the actual and prospective earning power of the railroad, whereas the par value registers merely the amount of money contributed by the stockholders (assuming that the stock was paid for in full in the form of cash). It is certainly not to be presumed that the funds invested by stockholders in different railroads will prove to be equally productive; and therefore it happens that some railroads earn handsome profits on the par value of their stocks, while other railroads earn moderate or insignificant profits. The operations of the persons who buy and sell railroad stocks result in a high market valuation being placed on the stocks of those companies that have good earning power, present or potential, and a low market valuation on the stocks of those that have poor earning power; and this quite irrespective of the par values of the several securities.

The relation between market and par values is so remote that it has been suggested that shares be issued without par value, and of recent years there has been a marked tendency on the part of industrial corporations to eliminate the par value.[1] A number of arguments have been advanced in favor of this change, but the principal one perhaps is that the abolition of par value will do away with the fallacious notion that the actual value of shares tends to correspond with their par value; and will thus operate to protect the investor. The argument is that a share of stock is in fact a "participation certificate," a certificate entitling the owner to participate according to a certain percentage in the control, profits, and assets of the issuing corporation; and since it is of this nature in fact, it should be made so in form. If a railroad has outstanding 1,000,000 shares, each having a par value of $100, the notion is widespread that there are at least $100,000,000 of assets behind the shares, yet there may be no foundation whatever for

[1] On this topic, see Bonbright, J. C., *Railroad Capitalization*, ch. 4.

this opinion. If, however, the shares have no par value, the prospective investor, being prevented from employing an unsatisfactory yardstick, will be more inclined, it is said, to inquire into the value of what he really possesses—a right to participate according to a certain percentage in the control, profits, and assets. The argument has weight, and accordingly a number of states have recently amended their corporation laws to permit the issuance of shares without par value, though some of the states specifically deny this privilege to railroad corporations. Partly for this reason and partly for others only a very few railroads have issued shares without par value.

In most corporations, and this is particularly true of railroad corporations, all of the stock is of one class; no share has any privileges that are not possessed by all the other shares. Such stock is called "common stock" in this country, and "ordinary stock" in Great Britain.[1] Many corporations, however, divide their stock into classes, which do not stand on an equality. A portion of the stock is endowed with certain preferences, and is called preferred stock; and the balance is appropriately called common (or ordinary) stock.

The common stockholders are the "residual claimants to surplus earnings"; they are entitled, subject to certain exceptions to be noted shortly, to all the earnings that remain after the expenses have been met and the claims of bondholders and preferred stockholders have been satisfied. The common stockholders, of course, receive only such portion of the surplus earnings as the directors (elected by the stockholders) choose to pay out in the form of dividends; but ordinarily there is no legal restriction on the amount or per cent of dividends that the directors may declare (assuming the dividends to be earned). The Transportation Act of 1920 limits these dividends indirectly, to be sure, by providing that the railroads must give to the federal government one-half of all their net operating income over and above six per cent on the value of their property, yet each railroad is free without restraint to distribute to its common stockholders what remains after complying with this requirement.[2]

[1] When there is only one class of stock there is no particular reason why it should be designated as common stock; it suffices to call it merely stock. Yet current usage favors the longer expression.

[2] Cf. p. 550.

Common stock occupies a much more important position in railroad finance than does preferred stock. The American railroads when first organized issued only common stock, and not until many years after their organization did preferred stock assume any importance. The preferred stock has never amounted to much more than one-fourth of the total share capitalization; and at the present time it amounts to only one-fifth. Many of the leading American railroads have no preferred stock at all. It is important to note that stock, when all of one class, should be referred to either as stock or as common stock, and not as preferred stock. The Great Northern Railway has outstanding an issue of stock which it calls preferred stock. This is a misnomer, since the Great Northern has only one issue of stock, all of which enjoys equality of privileges. Since the so-called preferred stock of the Great Northern enjoys no preference of any kind, it is not appropriately termed preferred.[1]

Common stock is more speculative, of course, than preferred stock. Since the holders of common stock are "residual claimants," they receive no dividends if there is nothing left to distribute. On the other hand, they may receive a great deal if the railway has been particularly profitable. It is the relative uncertainty of the result that makes common stock speculative. However, common stock may be much more valuable than preferred stock. If the earnings are sufficiently large to justify a higher dividend to the common stockholders than the limited rate that is paid to the preferred stockholders, and if the continuation of these large earnings may reasonably be anticipated, the common stock will command a higher price in the market than the preferred. Though the common may sell for more than the preferred, it generally does not. This is due sometimes to the fact that the profits are less than they should be, and sometimes to the fact that the shares of common stock are more numerous than they should be. The first explanation is likely to be offered by the railroad officials and the railroad stockholders; the second by the railroad employees and the politicians. Both explanations are correct, in part at least; and certainly in the case of particular

[1] The reason the Great Northern calls its stock preferred is that an old charter authorized the issuance of preferred stock without limitation, and the Great Northern by refraining from the issuance of stock called common stock maintains that it is not subject to state regulation of the issues of securities.

roads, whatever may be the facts as to the adequacy of railroad profits in general, the explanation of the low quotations of their common stock is its issuance in excessive quantities.

Preferred stock is the second class of stock. Unlike the common stock, the preferred enjoys certain special privileges, but it is also subject ordinarily to certain restrictions from which the common stock is free. In order to ascertain the exact nature of these preferences and restrictions in a particular case it is necessary to consult the charter and by-laws of the corporation; there is no uniformity in these matters. Because there is no uniformity, our discussion of the status of preferred stockholders must be understood to be general in character, and not universally applicable to all corporations nor even to all railroad corporations.

The privileges enjoyed by preferred stock consist for the most part of (1) a preference in the distribution of earnings; (2) a preference in the distribution of assets, in the event of dissolution; and (3) less commonly, a preference in voting power. Each of these preferences may be briefly described.

(1) The most characteristic privilege enjoyed by preferred stock is that its holders are entitled to a definite dividend before the owners of common stock receive anything. The rate of dividend may be 6 per cent, 7 per cent, or any other per cent, but until the specified rate of dividend, whatever it may be, has been paid, no dividends at all can be paid on the common stock. The dividend on the preferred stock may or may not be cumulative. If the dividend is cumulative, it means that if in any year the preferred stockholders do not receive the stipulated rate of dividend, they are entitled to have the deficiency made up to them in future years. Thus, if the dividend rate on the preferred stock is 6 per cent, and this dividend is passed (not declared) during a particular year, the preferred stockholders are entitled to 12 per cent the following year. By entitled we do not mean, of course, that the preferred stockholders can force the directors to pay them 12 per cent or any other per cent, if the directors do not see fit to do so. The preferred stockholders may be able to elect new directors, but they can not force the directors in office to declare preferred dividends, even though the dividends have been earned. What we mean by entitled is that until the preferred stockholders have been paid the regular rate of dividends plus accumulated dividends, if any, no dividends may be paid to the common stockholders.

If, however, the preferred dividend is noncumulative, as is generally the case with railroad preferred stocks, dividends once passed are lost forever to the holder of the preferred stock. This is one reason why noncumulative preferred stocks are not an altogether satisfactory form of investment. If the common stockholders are able to outvote the preferred stockholders, they can choose directors who will pass the preferred dividends, and devote the funds available for dividends to the upbuilding of the property. Such action will increase the value of the property, and will enable the railroad company to pay larger dividends eventually to the common stockholders than would otherwise be possible. The directors might pursue an identical course of action, even if the preferred stock is cumulative, with the important difference that in this case no dividends can be paid on the common stock until not only the regular dividends on the preferred have been paid, but also all the accumulated back dividends. The holder of cumulative preferred stock can be compelled to wait for his dividends, yet if they are earned he should get them eventually.

The right of preferred stock to a preference in dividends is generally combined with a limitation of the dividend to a definite amount or rate. Once the preferred stockholders have received their 6 or 7 per cent, they usually receive no more, the balance going to the common stockholders, who are the residual legatees. This is as it should be; the preferred stockholders have incurred a reduced risk, and their return may therefore properly be limited. Though this is the rule, it is not universally the case. Some preferred stock is what is called participating stock, that is, it enjoys the privilege of participating in those profits of the enterprise which would go entirely to the common stockholders, were the preferred stock not participating. It is to be expected that participating preferred stock will command a higher price than preferred stock not enjoying this privilege, and this is why the corporation issues such stock. The extent to which the preferred stock may be allowed to participate in profits depends entirely on the terms of issue that the corporation decides upon; and the terms vary greatly. A common arrangement with railroads is for the preferred to share equally with the common after dividends have been paid on the common equal to those paid as an initial dividend on the preferred. To make the point clear by an illustration, suppose a railroad has a capital stock

of $100,000,000, half 6 per cent participating preferred stock and half common stock; and suppose that it pays out $8,000,000 in dividends. The first $3,000,000, being 6 per cent on $50,000,000, would go to the preferred stockholders; the second $3,000,000, being also 6 per cent on $50,000,000, would go to the common stockholders; and there would be left $2,000,000 to be divided equally between both sets of stockholders. The rate of dividend on both classes of stock would thus be 8 per cent. Or it might be provided that after the preferred and the common had both received 6 per cent, an additional 3 per cent should go to the preferred and the balance to the common. Under this second arrangement the preferred stockholders would receive $4,500,000, or 9 per cent; and the common stockholders would receive $3,500,000, or only 7 per cent. If, however, the railroad found itself able to pay out $10,000,000 in dividends, the preferred stock under the second arrangement would still receive $4,500,000, whereas the common stock would receive $5,500,000, or a dividend of 11 per cent. The railroad corporation, to repeat, may adopt any arrangement that is calculated to attract funds on favorable terms, always assuming that no restrictions on its liberty of action are imposed by statutes, its charter, its by-laws, or outstanding agreements with its bondholders and stockholders.

Preferred stock may be made attractive to prospective investors, and a better price received for it, by making it convertible into common stock. The preferred stockholder presumably estimates safety more highly than a large return, yet he may welcome an opportunity to share in the profits, should they prove to be unusually great. The privilege of conversion may be conferred also on preferred stock issued as a phase of a reorganization, in order to give the holders thereof an opportunity to recoup themselves for the losses that the reorganization presumably entailed. The privilege of conversion may be allowed at any time, or after a certain date, or until a certain date; and it may be at any ratio of exchange that seems desirable, though it is usually at par (share for share). It is evident that the holders of the common stock may suffer as a result of the preferred stock being made convertible into common. The holders of common stock take most of the risks of the enterprise, and they are therefore entitled to most of the profits, should they materialize. Yet their share of the profits is reduced if the preferred stockholders can convert

their limited-dividend shares into unlimited-dividend shares.

Preferred stock may be all of one class, or it may be divided into first preferred, second preferred, etc. The first preferred, as the name implies, stands ahead of the second preferred in some regard, usually in the enjoyment of a prior claim on earnings. Very few railroads have two classes of preferred stock, and when they do, it is generally the result of a reorganization following upon failure.

(2) A second privilege sometimes enjoyed by the preferred stock is a prior claim on the unattached assets of the corporation, in the event of dissolution. In the case of many corporations, stock has been issued so freely that it greatly exceeds the value of the property. In a liquidation, therefore, whether voluntary or forced, the assets that would remain after satisfying prior liens, such as bonds and other creditor claims, would be less than the par values of the outstanding preferred and common stocks. In the absence of any stipulations giving the preferred stockholders a prior claim, the assets would be distributed equally between the preferred and the common stockholders; and the preferred stockholders would thus sustain a loss. To protect them in their investment it is sometimes provided that in the event of dissolution the preferred stockholders are entitled to receive up to the par value of their stocks in any distribution of assets, before the common stockholders receive anything. Where this provision is found the stock is said to be "preferred as to assets." This provision, however, is not common with railroad preferred stocks; and the holders thereof are not greatly disadvantaged by its absence. This is because the assets of a railroad are valuable mainly as parts of a going concern; their scrap value is small. The assets of a road that found it necessary to liquidate would thus go almost in their entirety to satisfy the claims of creditors, and little or nothing would be left for the stockholders. If nothing is left for the stockholders, the preferred stockholders gain nothing by having a preferred claim on the assets.

(3) Preferred stock may have a preference in voting power. This is not the rule; usually the preferred and the common have equal voting power. When they do not have equal voting power it is the common that is more likely to be favored; and even when common and preferred shares stand on an equality in this regard, the common stock usually exercises the controlling influence, be-

cause there are more shares of common outstanding. The common stock may even have the right to retire the preferred stock under stipulated conditions as to price, etc., in which case the preferred stock is called "redeemable." Railroad preferred stocks, however, are seldom redeemable. Though preferred stock usually has the same voting power as the common, it sometimes has more, particularly in voting on certain matters that vitally affect the investment status of the preferred stock. The holders of preferred stock are fundamentally interested in regular and assured dividends; and if their stock is not participating, as it generally is not, they are opposed to the adoption of policies that may increase the profits of the enterprise, but that may also endanger the payment of the preferred dividends. They might be expected to oppose, for example, a program of expansion unless its probable effect was to make more secure their own position. To make preferred stock salable, therefore, it is not unusual to protect it by a provision that new issues of bonds and even of preferred stock may not be authorized without the consent of the preferred stockholders. Such cases are special, however, and as a general rule it may be said that the preferred stock has the same voting power as the common.

It is to the interest of the common stockholders that preferred stock be issued, since the raising of a part of the necessary funds in this way reduces the amount that the common stockholders have to contribute. By paying the holders of preferred stock a definite and limited return, the common stockholders are able to distribute the profits of the business over a narrower base, and thus earn a larger rate of dividend.[1] The same is true to a greater degree of bond issues, since the interest rate on bonds is usually less than the dividend rate on preferred stock; yet the danger here is that a period of industrial depression may make it impossible for the railroad to meet its interest obligations, and if the railroad property is seized by the creditors to satisfy their claims the investment of the stockholders may be extinguished entirely. A part of the necessary funds may thus advantageously be secured through the sale of preferred stock. Desirable though it be to divide the stock into common and preferred, the fact should not be lost sight of that the result is to produce a conflict of interest betweeen the two classes of shareholders. If the preferred stock

[1] Cf. p. 32.

is noncumulative, as is characteristic of railroad stocks, the interests of the common and the preferred stockholders are often opposed. If the earnings are sufficient to pay dividends on the preferred stock, but not on the common, the postponement of preferred dividends represents a permanent loss for one class of stock and a permanent gain for the other. Conflicts also arise in the distribution of assets, whether of a prosperous road to its common stockholders against the wishes of the preferred stockholders, who oppose the dissipation of the assets behind their stock, or of a road undergoing reorganization because of failure. The disputes that arise in these and other ways are by no means sufficiently important to offset the particular merit of preferred stock, which is that thereby the wants of individual investors can be better served; but they are perhaps sufficiently important to explain why the preferred stock constitutes only one-fifth of the share capitalization of American railways, and why the percentage is less now than it was a generation ago.

Bonds and Notes

Bonds and notes do not differ in any important respect except in the length of the period during which they run. The security is designated a bond when it does not mature for a number of years, and a note when it matures within a comparatively short period. Opinions differ as to how many years of life are necessary to make the security a bond, but the most common periods mentioned are three, five, and ten years. Our treatment will deal mainly with bonds, running, let us say, for at least ten years and usually for a longer period.

The word bond, as defined by Mr. Lawrence Chamberlain, author of the standard work on bonds, represents all subdivided interest-bearing contracts for the future payment of money that are drawn with formality, whether they are secured or unsecured, and whether the payment of interest is always imperative or not.[1] A bond issue, it may be noted, consists of two important parts. The first part is an elaborate document to which there are three parties—the corporation, the trustees for the bondholders, and the bondholders. This document "specifies in great detail the obligations of the corporation, the duties of the trustees, and all the rights and privileges of the bondholders." The second part

[1] *The Principles of Bond Investment*, pp. 72, 74 (1913).

consists of the bonds issued under the foregoing document. The bonds are small pieces of paper witnessing the promise of the corporation to pay a certain sum of money on a specified date with interest meanwhile at a definite rate. The bonds contain the signatures of the proper corporate officers and the certification of the trustee that they have been issued in accordance with the provisions of the document entrusted to his safe-keeping. The bonds may recite a few other details, yet most of the details are to be found in the document held by the trustee on behalf of the large body of bondholders.

Bonds deal with many matters, but it is substantially correct to say that they all contain the following features: (1) A promise to pay a certain sum of money. It is this feature that distinguishes bonds from shares of stock, and makes it clear that the bondholders are creditors of the corporation, and not owners. Not being owners, the bondholders seldom enjoy voting power. The face value or denomination of the promise to pay is usually $1000, though recently there has been a tendency to issue bonds of smaller denominations. (2) A promise to pay this sum of money on a definite day—the day when the bonds mature. The corporation sometimes reserves the right to redeem the bonds or a portion of them before they mature. (3) A promise to pay a definite rate of interest at regular intervals. The specified rate varies as between different railroads and as between the different bonds of a given railroad. It varies also from time to time, according as the investment market is favorable or unfavorable. In the case of income bonds, however, as we shall explain later, the interest need not be paid unless earned. (4) A description of the security behind the corporation's promise to pay. In the case of mortgage bonds, for example, the corporation pledges specific property to protect the bondholders. (5) A statement of the manner in which the bondholders may enforce their claims in the event that the railroad fails to live up to its promises. Though there are many other provisions in the document under which the bonds are issued, the foregoing should serve to make reasonably clear the nature of bonds.

There are numerous types of bonds, so numerous indeed that it is out of the question to do more than describe a few of the leading types.[1]

[1] For a catalogue description of the more important bonds, see Lagerquist, W. E., *Investment Analysis*, pp. 675–697.

The most important type by far is the mortgage bond, constituting approximately three-fourths of all the railroad bonds outstanding. Bonds, as we have seen, are essentially promises to pay. Mortgage bonds are promises to pay that are secured by a mortgage or lien on physical property of the mortgagor (the borrower). The nature of a mortgage will become clear by reference to the ordinary real estate mortgage, with which the reader is probably familiar. The real estate mortgage conveys "all right, title, and interest" in a particular piece of property to the mortgagee (the lender of the money), with the proviso that the transfer is to be null and void in the event that the interest on the loan is paid regularly and the principal is paid upon maturity. If, however, the borrower fails to pay the interest and principal as promised, the mortgaged property passes to the lender, at least to the extent necessary to enable him to recover the amount of the loan for which the property serves as security. This arrangement obviously protects both borrower and lender, the former in the possession and use of his property so long as he pays his debts, and the latter in the collection of his loan, and interest thereon periodically. A railroad mortgage is fundamentally like a real estate mortgage, but with this important difference—that in the case of a railroad it is seldom practicable to give a separate mortgage with each bond. The railroad usually borrows in terms of millions of dollars, and borrows from thousands of individual investors; yet its property is practically indivisible, each part having value in the main only as a portion of a single system. A railroad, therefore, like other large corporations, finds it necessary to give the mortgage to some person (or concern), who acts as trustee for the bondholders. All that the individual bondholder receives is a small piece of paper, called a bond, containing the promise of the railroad to pay. The bond makes reference to the agreement between the railroad and the trustee; and it is this agreement, called a deed of trust, that the bondholder must consult to ascertain his rights under the mortgage.

It has been said that the mortgaged property passes to the bondholders in case the railroad fails to meet its obligations to them. This should not be taken to mean that the transfer is automatic or that a single bondholder can bring it about. Once interest has been defaulted, the trustee, after allowing the necessary period of grace, may bring suit against the corporation; but gen-

erally he does not do so until requested by a majority of the bondholders (acting through a protective committee), and until the necessary funds have been provided. Moreover, though the bondholders *may* seize the mortgaged property to satisfy their claim, they do not always do so. More commonly the bondholders and the stockholders coöperate in readjusting the railroad's affairs so that it will be in a position to meet its obligations to its creditors. The real security behind the bonds, it should be understood, is not particular pieces of property, but earning power. If the railroad could not meet its obligations under the former conditions there can be no assurance that the bondholders will get back their money by seizing the railroad property. The railroad, of course, can not be abandoned, and its property sold. The public will insist on continued operation, and by the Transportation Act of 1920 no railroad engaged in interstate commerce may be abandoned without the approval of the Interstate Commerce Commission (the government commission that regulates the railroads). Moreover, if the bondholders are allowed to seize the mortgaged property, the stockholders will lose their equity in it. Accordingly it is generally preferable for the bondholders and stockholders to get together and to devise a plan whereby, through cash assessments on stockholders or other devices, the railroad can be made sufficiently profitable to meet its obligations to its creditors, and still leave something perhaps for its stockholders.[1]

The above description has referred to railroad mortgage bonds as a class. There are, however, innumerable varieties of these bonds. There may be first mortgage bonds, second mortgage, third mortgage, and so on. Second mortgage bonds differ from first mortgage in that the risk is greater, and therefore the rate of interest, other things being equal, is higher. The risk is greater because the claim of the first mortgage bondholders to interest and the repayment of the principal at maturity comes ahead of that of the second mortgage bondholders. The railroad may even put out third mortgage bonds, yet it is generally difficult to find buyers for bonds with such inferior liens. Indeed the reluctance of investors to take second mortgages is so pronounced that the endeavor is made to give bonds the name of a first mortgage, even though they may be a first mortgage on only a small amount of property. It follows that the purchaser of bonds must not be

[1] Cf. ch. 18.

unduly influenced by their name; the second mortgage bonds may be actually superior to some of the bonds called first mortgage bonds. We will make this point clearer as we proceed. Illustrating the varieties of bonds further, some bonds are called general mortgages and some divisional mortgages. The general mortgage usually covers the whole system, whereas the divisional mortgage covers only an operating division. Other things being equal, a divisional mortgage is not as good as a general mortgage. This is because a division is not an independent transportation unit; its value and earning power may depend on its being a part of a larger system. Yet a divisional mortgage may rank higher than a general mortgage; for the former may be a first mortgage, while the latter, even though called a first general mortgage, may be in fact a second mortgage. If a general mortgage is the first mortgage to be placed on the whole system, it can be called a first *general* mortgage, even though there be a first divisional mortgage on every division of the railroad. A second divisional mortgage might therefore come ahead of a first general mortgage. Other mortgage bonds are termed consolidated, refunding, unifying, and the like. These bonds are often called first mortgage bonds, even though they are not a first mortgage on anything. To illustrate, suppose railroad A has issued a general mortgage that is a first mortgage on its property; and that railroad B has done the same. If then these two roads consolidate to form railroad C, this road may issue bonds which it calls first consolidated bonds. Though these bonds are in no sense first mortgages, they are the first to be consolidated. It is even possible to put a second mortgage on railroad C, and call it a first. If the first consolidated mortgage bore 4 per cent interest, the second consolidated mortgage, if it pays 5 per cent interest, can be called the first consolidated fives, notwithstanding the fact that it is a third mortgage. Thus is the public likely to be deluded, unless the government intervenes to protect the unsuspecting investor, who despite the old doctrine of *caveat emptor* (let the buyer beware) is often surprisingly careless when it comes to the safeguarding of his funds.

A second important type of bond is the collateral trust bond. This bond, like the railroad mortgage bond, is secured by property, but by a different kind of property. Whereas the ordinary railroad mortgage bond is secured by the real estate and other physi-

cal assets of the issuing corporation, the collateral trust bond is backed by the securities of other corporations, of which securities most railroads in the upbuilding of their system have acquired a considerable supply. These securities may be stocks or bonds, or both; and they may be the securities of only one other corporation or of many others. Whatever their nature they are pledged as collateral with a trustee, who holds them in trust for the benefit of the owners of the collateral trust bonds. If the railroad issuing collateral trust bonds meets the interest (and the principal upon maturity), it is entitled to all the income from the securities which it has conveyed to the trustee; but in the event of default the trustee may sell the pledged securities, and sue the railroad for such portion of the debt as remains unpaid. A collateral trust bond then is as good as the collateral behind it; if the collateral is fully adequate the bond itself represents a safe investment. Even though the collateral be inadequate, however, the bond may be good; for it is an obligation of the issuing railroad, which will meet it in full, if possible. Whether this additional protection amounts to anything or not depends on the financial status of the railroad. If it is able to meet its obligations to the holders of the collateral trust bonds, these bonds will be good, notwithstanding the inadequacy of the collateral. If, however, it is unable to meet its obligations, the fact that the collateral trust bonds are an obligation on its part will not be likely to help the holders thereof; for the mortgage bondholders have a prior claim on the physical property of the railroad.[1] The collateral trust bondholders can assert their rights, of course, but the assertion of their rights places them in the possession merely of stocks and bonds of other corporations. If they receive stocks they obtain only the equity in the property remaining after the claims of the creditors have been met; and if they receive bonds they can obtain physical property only by foreclosing, and their legal claim on the physical property in the event of foreclosure may be inferior to that of other bondholders. The conclusion then is reënforced that the real security behind bonds, whether collateral trust bonds or ordinary mortgage bonds, is earning power. If the railroad that issues

[1] A collateral trust bond, to be sure, may be secured not only by stocks and bonds, but also by a direct lien on physical property. In this case it would be a mortgage bond as well. Likewise a mortgage bond may be secured in part by the pledge of securities as collateral.

collateral trust bonds is able to pay the interest on them, the collateral trust bonds are good; and even if it is not able to meet the interest on them, they are good, if the earnings from the pledged securities are large enough to cover the interest. If, however, the earnings from both sources are inadequate, the collateral trust bondholders will suffer.

Collateral trust bonds have been issued to serve a number of purposes. Probably their principal use has been in connection with the acquisition of control over other lines, whether for the purpose of piecing out a system or of putting an end to competition. A railroad which has an ample supply of cash can acquire the securities of other companies, and by depositing these securities with a trustee as collateral for an issue of collateral trust bonds can reimburse itself for its cash outlay. Or if it does not have sufficient cash for this purpose, it may happen to hold in its treasury the securities of other companies, whether subsidiaries or not, which can be pledged to secure an issue of collateral trust bonds, the proceeds of which are to be employed in acquiring the securities of other railroads. Even if a railroad has not the necessary cash or securities, it can often effect the desired control by exchanging its collateral trust bonds directly for the coveted securities, or by selling its collateral trust bonds under an agreement to use the proceeds thereof in the purchase of these securities, which will then be deposited with a trustee for the protection of the holders of the collateral trust bonds. The merit of the collateral trust bond from the point of view of the railroad is that it facilitates the acquisition of other companies without an undue strain on its credit. The disadvantage from the point of view of the investor is that he is often led to buy a bond the security behind which is solely stock, when in fact he desired the greater protection that the ownership of a bond usually conveys.

Another important use of collateral trust bonds has been in the financing of extensions. In constructing extensions it is usual to resort to separate companies, for one reason because this may be required by the laws of the state through which the railroad is to run. The subsidiary company might obtain the necessary funds, of course, by issuing its own securities, yet its credit would hardly be as good as that of the parent company. Therefore the practice has been for the parent company to sell its collateral trust bonds to the public, and to exchange the proceeds for the

stocks and bonds of the subsidiary. This gives the parent company control of the subsidiary; and it gives the subsidiary the funds needed for the extension.

A third type of bond is the equipment obligation, which represents a loan secured by a direct lien on railroad rolling stock (locomotives and cars). Equipment obligations are of three varieties: (1) car trust certificates; (2) car trust bonds; and (3) equipment bonds.[1] The inherent advantage of them all is that they furnish a means whereby a railroad in need of additional equipment can secure it, notwithstanding the fact that it may already have mortgaged its property to the limit. Upon first glance it might appear that a railroad in need of equipment could acquire it, even if it had mortgaged all its property, by selling bonds to be secured by the equipment purchased with the proceeds of the bond issue. While this is sometimes possible, it is not always by any means. The reason is that many outstanding mortgage bonds contain what is known as the "after-acquired property clause," which provides that the mortgage shall cover not only the property then owned by the railroad, but all the property thereafter acquired by it. When this is the case, the railroad could hardly sell bonds to buy equipment, because the bonds would represent an altogether inferior lien on property. To avoid this difficulty resort has been had to equipment obligations, which withhold title to the equipment from the railroad, and yet permit the use (and eventual acquisition) of the equipment by the railroad.

The nature of equipment obligations may be indicated by an explanation of car trust certificates.[2] Though the steps that lead up to the issuance of these securities are not always the same, the following procedure is typical. A railroad in need of additional cars makes a contract with a car company, which proceeds to manufacture the desired number of cars according to specifications. Subsequently the railroad enters into an agreement with a third party, say a trust company, whereby the trust company contracts to purchase the cars from the manufacturer and to lease them to the railroad. It is intended that the cars shall eventually

[1] This is the classification used in Chamberlain, L., *The Principles of Bond Investment*, p. 73.

[2] For a description of car trust bonds and equipment bonds, see Chamberlain, L., *The Principles of Bond Investment*, ch. 23.

become the property of the railroad, yet so long as the lease is in effect they remain the property of the trust company. In accordance with the provisions of the lease the railroad pays to the trust company in cash a sum equal to at least 10 per cent of the value of the cars, and agrees to make regular payments thereafter until the cars are fully paid for. These payments represent interest on the unpaid balance plus a portion of the principal. On the security of the contract of lease with the railroad, the trustee sells car trust certificates, which represent certificates of interest in the lease (and thus in the rental payments made under the terms of the lease). Through the sale of car trust certificates the trust company obtains the necessary funds with which to pay the manufacturer for the cars.

Car trust certificates are a high grade security; in fact, they rank with the very best corporate securities. The enjoyment of this excellent investment status is due to the numerous provisions in the lease that protect the holders of the certificates. By the terms of the lease the lessee (the railroad) agrees to make regular (generally semiannual) payments to the trustee for the benefit of the certificate holders. These payments place the trustee in the possession of funds with which to meet the interest on the certificates. If, then, the railroad does not default on its rental payments, the interest is protected. And such default is not to be anticipated, for the reason that the railroad must have equipment in order to operate its trains. In this respect the holder of car trust certificates is in a much more favorable position than the holder even of first mortgage bonds. If a railroad defaults on its first mortgage bonds the bondholders can take over the property, to be sure; yet it is of no use to them unless they can make it pay, and it is entirely possible that without some sacrifice on their part it can not be made to pay. If, however, a railroad defaults on its rental payments under the lease, the trustee, which is already the legal owner of the cars, takes physical possession with practically no prospect that any loss will have to be sustained by the certificate holders. The fundamental difference lies in the fact that the car trust certificates are secured by movable, transferable property that can be used by numerous other railroads, and that has a value greater than the outstanding certificates, whereas the mortgage bonds are secured mainly by nonmovable, nontransferable property that has a value dependent on its earn-

ing power where it rests. It therefore results that the receiver of an insolvent railroad will continue to meet the rental payments on the equipment, even though he may fail to pay the interest on the first mortgage bonds.

There are numerous other provisions that protect the holders of car trust certificates. The railroad agrees in the lease to keep the leased cars in proper repair; to replace them if destroyed; to insure them against loss or damage; to place upon each car a name plate giving the name of the trustee (the actual and legal owner); and in the event of any default to assemble all the cars at one point and to deliver them to the trustee. The railroad usually guarantees the car trust certificates, though it is doubtful whether this increases their value, since the security is already fully adequate. More important is the fact that the car trust certificates are short term obligations maturing in a series, and maturing more rapidly than the equipment depreciates. The certificates seldom run for a longer period than ten years, and this is less than the average life of a car. Since title to all of the equipment remains in the hands of the trustee until the railroad has completed its last payment under the lease, it is evident that the security behind the certificates becomes relatively greater, the nearer they approach their maturity date. Once the railroad has made its last payment under the terms of the lease, and not until then, the lease is cancelled, and the title to the equipment passes to the railroad. Meanwhile the railroad has had the use of the necessary equipment, and the investors have held an unusually safe security.

A fourth type of bond is the income bond. The main characteristic of this bond is that the interest need be paid only if earned. The principal of an income bond must be paid upon maturity, otherwise the income bondholders have the right to foreclose on the mortgage. The protection this gives is likely to be inadequate, however, since the mortgage is usually a junior lien, that is, comes after certain prior liens. Unlike the ordinary bond, however, there is no obligation to pay the interest unless it is earned; the failure to pay the interest gives the holders no right to take the control of the property away from the stockholders. It is this feature of the bond that gives it its name; there is no necessity of paying the interest on it unless income is available for the purpose. As claimants of a return on their security the

income bondholders thus stand in much the same position as the preferred stockholders, but with one important difference. The interest on the income bonds must be paid if earned, whereas dividends on the preferred stock may be paid or not, in the discretion of the directors. Income bonds are inferior to preferred stock, however, in that the bonds do not have voting power, whereas the stock does. Sometimes, to be sure, income bonds are given voting power; and sometimes preferred stocks are not. Yet it is generally the case that in this regard the position of the preferred stockholder is more advantageous.

The chief advantage of income bonds is that they impose no fixed interest charges upon the railroad; if earnings are insufficient, the interest can be passed without the railroad being thrown into the hands of a receiver. This advantage is much more than offset, however, by the serious disadvantages of these bonds. The first objection to income bonds is that they represent an attempt to unite in one obligation two contradictory principles,—security and risk. The bondholder presumably wants a limited risk, and expects therefore only a limited return; the stockholder is willing to assume a greater risk in order to receive an unlimited and (it is hoped) a larger return. The income bondholder, however, assumes a considerable risk, and yet he can expect only a limited return. If the railroad loses money, he suffers; if it makes a great deal of money, he receives only his stipulated interest. A security of this nature, not possessing the virtues of either bonds or stock, can hardly prove popular. Besides the fundamental objection that income bonds are based on a wrong principle, there is the practical objection that it is sometimes difficult to determine whether the interest has been earned. While it is quite easy to determine whether the reported net earnings are adequate to meet the interest on the income bonds, it is not so easy to determine whether the net earnings have been correctly reported. The net earnings are those that remain after deducting from gross earnings certain items, such as operating expenses, depreciation charges, etc. Yet the amount that should be charged off for these purposes is open to controversy. As a result the directors, who may wish to build up the property for the stockholders at the expense of the income bondholders, may understate the gross earnings (by failing to report the earnings of subsidiary companies), or may overstate the operating expenses (by making abnormal

expenditures for the maintenance of the property), and in these ways may make the net earnings appear to be less than they are in fact. This danger is not a fanciful one; a number of controversies of this nature have had to be thrashed out in the courts. The danger can be reduced by making the interest on the income bonds cumulative, yet even this added safeguard does not protect the income bondholders entirely.

The conclusion is that the use of income bonds should be avoided, if possible, and such seems to be the trend of the times. The principal reason why they are not discarded altogether appears to be their usefulness in connection with reorganizations. In a reorganization it is usually necessary to reduce the fixed charges, and this can best be done by inducing the holders of junior mortgages to accept preferred stock in exchange for their bonds. Yet the holders of these inferior bonds, being temperamentally opposed to stocks, may insist upon receiving bonds, even though they be only income bonds. To them a rose by any other name would *not* smell as sweet; they must have something *called* a bond. The task of reorganization committees is simplified then by issuing income bonds; and this seems to be the main reason for the continued use of such an unsatisfactory security, just as it was the main reason for their introduction in the first place.

A fifth type of bond is the debenture bond. This bond is a certificate of debt not protected by mortgage or collateral security; it is simply a promise to pay, based on the faith and credit of the borrower. Debenture bonds are unlike mortgage bonds, collateral trust bonds, and equipment obligations in that the failure to pay interest does not give the holders thereof the right to seize any specific pieces of property; and they are unlike income bonds in that the payment of interest is not contingent upon its being earned. The holder of debenture bonds is entitled to his interest, whether earned in a particular year or not; and he enjoys the right of action against the railroad in the event of a default in the payment of the interest or the principal. However, since no specific property has been pledged to secure the debt, this means that the debenture bondholder is merely a preferred creditor, whose real security is the earning power of the railroad. Viewed in this way a debenture bond is superior to an income bond, since interest on the latter need not be paid unless earned, whereas the failure to pay interest on debenture

bonds is cause for throwing the railroad into the hands of a receiver. Debenture bonds are superior also to preferred stock, the dividends on which do not need to be paid, even if earned.

Debenture bonds are not popular in this country from a feeling that they are not sufficiently secure. American investors usually insist upon a lien of one kind or another, which will place them ahead of the general creditors in the event of insolvency. To increase the popularity of debentures it is common to throw about them a number of safeguards. Among these provisions are an agreement upon the part of the railroad to place no additional mortgage on the property without including the debentures in the lien of the mortgage; an agreement not to increase the funded debt while the debentures are outstanding; and an agreement to employ the proceeds of the debentures in a specified manner for the upbuilding of the property. While such provisions may help to make up for the absence of mortgage security, debentures are used sparingly in this country. Indeed they are usually issued only by two groups of railroad corporations: first, those that enjoy such excellent credit that they can sell an unsecured promise to pay on favorable terms; and, second, those that are so heavily mortgaged that there remains little security to pledge. There are special reasons, of course, for the resort to debentures by other roads not falling within these two classes. Debentures may be employed in a reorganization as a means of lightening the burden of mortgages, and they may be issued for sale to English investors, with whom they are popular. Yet it remains true that the market for them is usually a limited one.

The foregoing bonds—mortgage, collateral trust, car trust, income, and debenture—constitute the principal types of bonds classified according to *security*. Bonds may be classified, however, in other ways. They may be classified according to the purposes for which they are issued. In this case their title commonly indicates the purpose. Such bonds are known as unifying, refunding, construction, purchase-money, improvement, or consolidated bonds.[1] The use of these descriptive phrases does not mean, of course, that these bonds are different from the five discussed above, but merely serves to describe them more fully. Thus, a refunding mortgage bond is not only a mortgage bond, but it is also one employed to refund some previous issue. Bonds may be

[1] See Lough, W. H., *Corporation Finance*, pp. 166, 189.

classified also according to the conditions of maturity.[1] Of the numerous varieties of bonds classified on this basis, the following may be enumerated. (1) Perpetual bonds, which have no date of maturity. (2) Straight bonds, which mature all at one time (unless redeemed prior to the date of maturity). (3) Serial bonds, which mature in regular installments. (4) Redeemable bonds, which may be retired by the issuing corporation before the date of maturity. (5) Convertible bonds, which are exchangeable by the holder, under a definite contract as to the time and basis of exchange, into some other form of security, usually stock. Bonds may be classified in numerous other ways, but into these minutiæ it is not necessary to go; the reader interested in the details of corporate securities may consult the standard works on corporation and railroad finance.

Notes constitute the second form of funded indebtedness. In view of the fact that notes differ from bonds only in having a shorter term, a brief discussion of them will suffice. Notes are usually an expedient for raising funds at a time when an issue of bonds could not be sold to advantage. If the interest rate is high, and there is reason to believe that it will fall in a few years, it may be good policy to postpone the issuance of long term bonds until a more favorable period. The danger, of course, is that when the notes mature, as they do shortly, the interest rate may be even higher than it was before. The railroad may then find itself unable to pay the notes or to effect their renewal, and be thrown into the hands of a receiver. It is usually the intention to pay off the short term notes at maturity with an issue of refunding bonds. Sometimes indeed they are paid off before maturity, the railroad in these cases having reserved the right to call the notes in before maturity at a stipulated price.

In bringing the discussion of bonds and notes to a close, it may be desirable to point out that the policy of borrowing is not to be regarded as a temporary one. Though individuals may consider it a desirable state to be out of debt, railroad corporations expect to remain in debt throughout their entire corporate existence. The reason is that by means of borrowing, the owners of the business (the stockholders) are able to realize larger profits. The advantage of permanent borrowing from the standpoint of the owners may be made clear by an illustration. Suppose a railroad

[1] See Chamberlain, L., *The Principles of Bond Investment*, pp. 106, 110–114.

is capitalized at $100,000,000, the capitalization exactly equalling the cash investment, and suppose the earnings are $6,000,000 annually. If the $100,000,000 is raised by the sale of stock, the railroad will earn for its stockholders only 6 per cent per year. If, however, half of the necessary cash ($50,000,000) be raised by the sale of 5 per cent bonds, there will be left for the stockholders annually $3,500,000, which represents earnings of 7 per cent on the $50,000,000 invested by them. The stockholders, therefore, by borrowing half of the necessary funds, have increased their earnings from 6 per cent to 7. The act of borrowing involves increased risks, of course, for the stockholders. Should the earnings of the railroad fall to $2,500,000, the whole amount would go to the bondholders, and there would be nothing left for the stockholders; whereas if the corporation borrowed no money, the $2,500,000 would be available for the stockholders, who would thus earn 2.5 per cent on their investment. On the other hand, should the earnings increase to $9,500,000, the bondholders would still receive only $2,500,000, whereas the stockholders would earn $7,000,000, or 14 per cent on their investment. The stockholders, therefore, are the risk takers; and though the act of borrowing increases their risks, it also increases their profits, provided the railroad is able to realize adequate returns. The situation would be different in some respects if we were dealing with an unstable liquidating proposition like coal mining; a coal company, unless it has inexhaustible reserves of coal, must some day retire its bonds. But a railroad that may be expected to continue indefinitely to supply transportation service for an expanding population should always borrow money, because thereby it can make larger profits for its owners.

There is a limit, of course, to the amount that a railroad can safely borrow. Opinions will differ as to what constitutes the proper limit, but conservative practice demands that the borrowings be not so great as to impose upon the railroad a burden of interest charges in excess of its earnings under the most unfavorable conditions it is likely to encounter. If a railroad is unable to meet its interest payments, and is thrown into the hands of a receiver, the property may pass to the creditors, and the owners may therefore suffer the loss of their entire investment. It is to their advantage, therefore, to supply a proper portion of the requisite capital, and thus maintain the credit of the railroad. The evil

consequences of failure, actual and imminent, are borne by the public also; and it is to their advantage as well to permit the railroads to make adequate earnings. By adequate earnings is meant not only earnings sufficient to meet interest payments on a proper funded indebtedness, but also reasonable dividends on stock; [1] for unless the railroad can pay dividends to its stockholders it will not be able to secure additional funds through the sale of stock, and it will thus be forced to adopt a financial structure top-heavy through an overweight of bonds. The proportion of the capitalization that may safely consist of bonds depends, therefore, on the stability of the enterprise; it is much higher for railroads, of course, than for mining and even manufacturing enterprises (as a class).

Having completed our brief discussion of railroad securities we may, in conclusion, call attention to the great variety of them offered to the investing and speculative public; there is something to suit practically all tastes. If the investor wants an assured return with a minimum of risk, he can buy high grade bonds based on specific and good security. If he is not averse to the assumption of a little risk in order to obtain a slightly larger return, he can find bonds of not quite so high a grade. He can go on down the line, taking preferred stock or common stock, as it suits his fancy. He can buy stocks that pay dividends or those that do not; and he can buy stocks that are prospective dividend payers or those that are not. He can even combine investment with speculation by buying convertible bonds, so that he can be sure of his interest, if the affairs of the railroad go only reasonably well, and can convert into stock, if the affairs of the railroad go unusually well. He can buy securities that mature many years hence, or within a few months, or anywhere in between. He can buy the securities of good railroads or of poor ones. The possibilities of choice are almost unlimited; and the result is that the railroads secure their capital on more favorable terms than would would otherwise be possible. Whether the terms are in fact favorable depends, of course, not alone on the variety of the offerings, but on the honesty and efficiency of railroad management, on the extent of the demand for railroad transportation service, and on the willingness of the people and their representatives in public office to allow the railroads to realize adequate returns.

[1] It is assumed here, of course, that the amount of stock outstanding is not excessive.

REFERENCES

CHAMBERLAIN, LAWRENCE: *The Principles of Bond Investment*, chs. 9, 11, 23 (1913).
DEWING, A. S.: *The Financial Policy of Corporations*, vol. 1 (1920).
GREENE, T. L.: *Corporation Finance*, ch. 3 (1904).
LAGERQUIST, W. E.: *Investment Analysis*, chs. 3, 17 (1921).
LOUGH, W. H.: *Corporation Finance*, chs. 5, 9–11 (1914).
——*Business Finance*, chs. 5, 7 (1917).
LYON, W. H.: *Capitalization*, chs. 1, 5 (1912).
MEAD, E. S.: *Corporation Finance*, chs. 4–5, 7–8, 23–27 (1912).
MITCHELL, T. W.: "The Collateral Trust Mortgage in Railway Finance," *Quarterly Journal of Economics*, vol. 20, pp. 443–467 (May, 1906).
RIPLEY, W. Z.: *Railroads: Finance and Organization*, chs. 3–4 (1915).
SAKOLSKI, A. M.: *American Railroad Economics*, ch. 2 (1916).

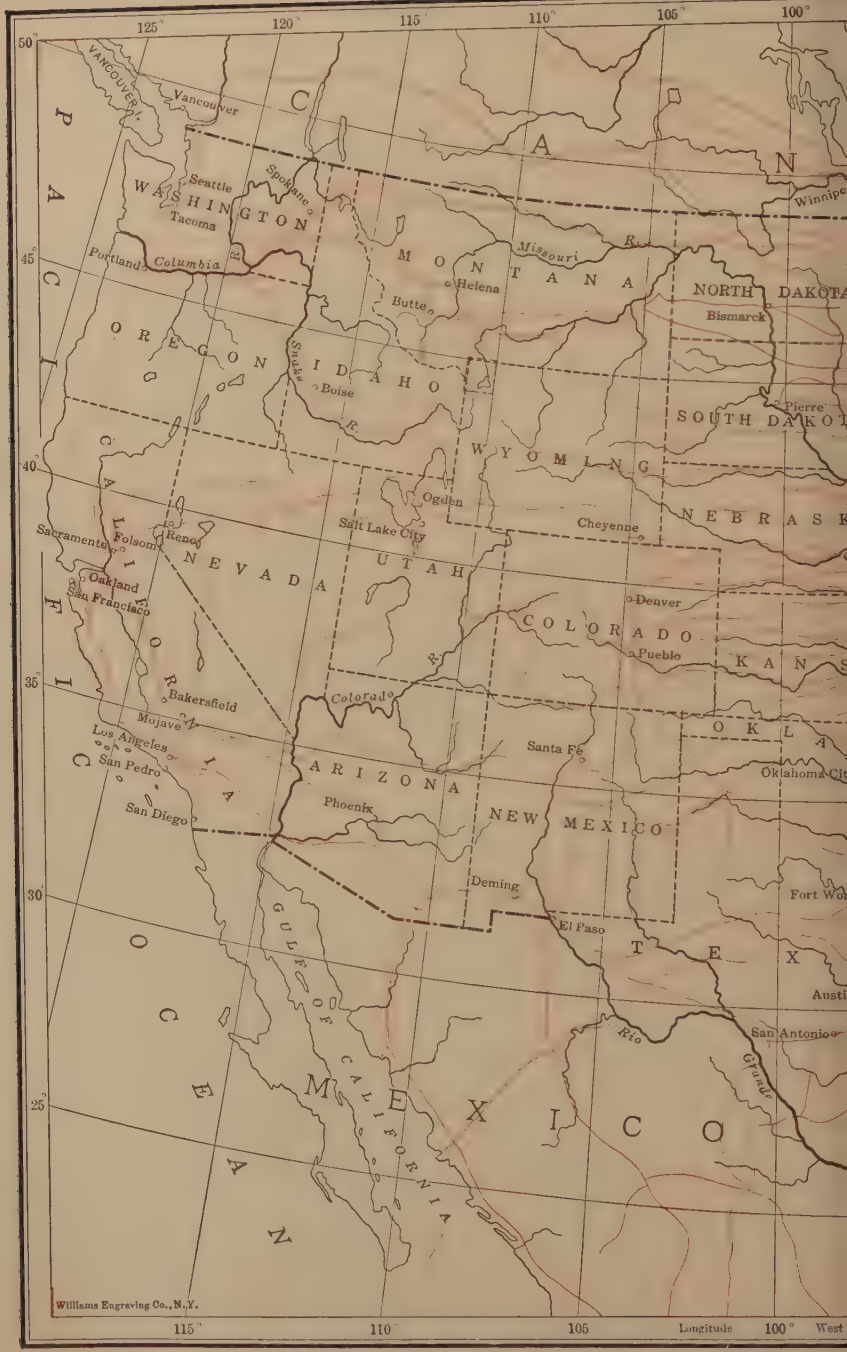
CHAPTER III

HISTORICAL INTRODUCTION

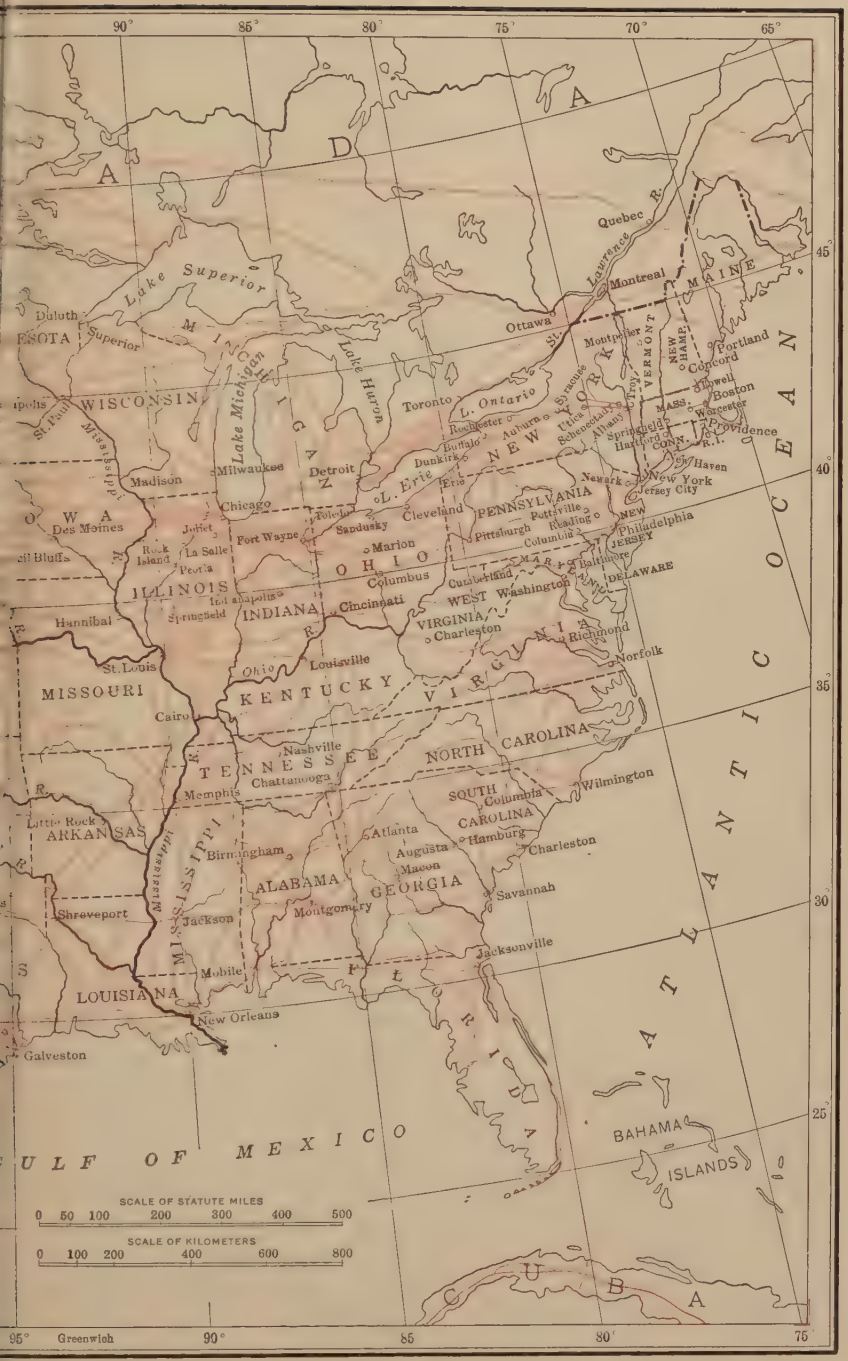
The first section of the Baltimore and Ohio, the first full-fledged American railroad, was opened, about 13 miles in length, in May, 1830. With this event our historical introduction might properly begin. It will be worth while, however, to describe briefly the transportation agencies employed before that date in order that the contribution of the railway to our transportation system may be better appreciated.[1]

In 1789 George Washington became the first president of the United States. At this date the country had no transportation system. Such communication as there was between the four million inhabitants, nearly all of whom lived east of the Allegheny Mountains, was by roads and natural water courses. The roads were poorly built, and having been constructed by the local authorities to serve local needs, were not well adapted to through traffic. Passenger travel was slow, uncomfortable, expensive, and sometimes even fraught with danger. The stage took six to seven days to go from New York to Boston, whereas now the railroad makes the journey in six to seven hours, and even less for the fastest trains. The movement of freight by land for long distances was practically impossible, except for articles having high value in proportion to bulk. Grain, for example, could not profitably be shipped to the East from the settlements west of the Alleghenies, and consequently the farmers were obliged to convert it into whisky, which, having a relatively high value in proportion to bulk, could be transported East and exchanged for manufactured products. The situation would have been much worse had it not been for the existence of natural water courses. On the East there lay the Atlantic Ocean, into which flowed many navigable rivers. By making use of these natural highways a large and profitable commerce was carried on. Yet to such transportation routes the Allegheny Mountains imposed an effective barrier;

[1] An understanding of this chapter will be facilitated by frequent reference to the accompanying map of the United States.



MAP OF THE UNITED STATES SHOWIN



IPAL CITIES MENTIONED IN THE BOOK

and the development of the western country, with its enormous possibilities, perforce waited upon the adoption of improved means of transportation.

Within the next forty years three successive improvements were adopted: (1) turnpikes; (2) canals and improved riverways; and (3) railroads.

Turnpikes

Turnpikes were improved roads, for the use of which a toll was commonly charged. They were called turnpikes, because "at the places where tolls were collected there was placed across the road a gate consisting of a pole armed with pikes and so hung as to turn upon a post." The turnpikes were usually built by corporations chartered by the states. The first American turnpike was built about 1790, the earliest important one being the Philadelphia and Lancaster Turnpike, completed in 1794. The success of the company that built this road encouraged the construction of others, notably in Pennsylvania, New York, and New England. Some states, Pennsylvania for example, gave subsidies to the turnpike companies to hasten development. The turnpikes were a great improvement over the early roads built by the local authorities, partly because they were better built, and partly because they were designed to accommodate through traffic. The turnpikes greatly reduced the cost of shipment, yet land transportation was still expensive as compared with water transportation. It cost from five to ten dollars per ton for a haul of 100 miles; and for many heavy articles this was quite prohibitive.

Though the turnpikes were generally built by private enterprise, the most celebrated one was built by the federal government. This was the Cumberland Road, or the National Pike, as it was sometimes called. This road ran west from Cumberland, Maryland. The first appropriation for its construction was made in 1806, and work was begun in 1811. By 1818 the road had been extended to Wheeling on the Ohio River. Subsequently it was pushed across Ohio and Indiana, and by 1838 it had reached Vandalia in central Illinois. It had been intended to continue the road at least to St. Louis, Missouri, and probably to Jefferson City, in central Missouri, but by the time Vandalia was reached the superiority of railroads to turnpikes had been established, and the proposed extensions were abandoned.

Canals and Improved Riverways

Canals and improved riverways constituted the second improvement in transportation. Briefly as regards rivers, the greater and more effective use of the natural water courses resulted in part from the removal of obstructions, such as rocks, sand, and snags, but in greater part from the invention and development of the steamboat. Prior to the application of steam to transportation by river the return journey against the current had been attended with difficulty and expense,—so much so indeed that it was not an uncommon practice to abandon the boat at destination, and to build a new one for the next journey downstream. But in 1807 Robert Fulton, by running the Clermont up the Hudson River from New York City to Albany, demonstrated the practicability of employing steam power to propel ships. In 1811 the steamboat was introduced on the Ohio River. The "New Orleans" left Pittsburgh in October, 1811, and reached New Orleans in January of the following year. Not until 1815, however, did a steamboat succeed in ascending the Mississippi and Ohio rivers as far as the falls at Louisville, and even for some time thereafter these falls constituted a serious obstacle to navigation on the Ohio River northeast of Louisville. Another obstacle was the grant of monopolistic privileges by some of the states. Thus, New York gave Robert Fulton and Robert Livingston the exclusive privilege of navigating the waters within its jurisdiction with boats propelled by steam or fire. These exclusive privileges checked the progress of steamboat transportation, but in 1824 they were declared illegal by the Supreme Court of the United States on the ground that they constituted a regulation of interstate commerce which it was not within the power of states to make.[1] Notwithstanding these obstacles, which were eventually overcome, the steamboat greatly promoted the development of commerce, both in the East and the West. As regards the West, it brought this region into closer communication with the Gulf, and thus built up Cincinnati, Louisville, St. Louis, and especially New Orleans. Yet the improvement and more effective utilization of the rivers did not meet the need for improved and more economical transportation *between* the East and the West. The people located east of the Alleghenies were pressing against the

[1] Gibbons *v.* Ogden (9 Wheaton 1–239).

mountain barriers, and in increasing numbers were filtering across. Between the people of the East and of the West there was a growing necessity for mutual exchange of products, but this exchange could not be carried on over rivers originating in the mountains, and because of the inhibitions of the law of gravitation unable to connect the territory east of the mountains with that lying to the west. This defect of natural water ways naturally encouraged the construction of canals.

The first canal in this country of any considerable commercial importance was the Erie Canal, from Albany to Buffalo, begun in 1817, and completed in 1825.[1] Long before that date a number of less important canals had been constructed. One of the first was the Santee Canal,[2] connecting Charleston, South Carolina, with the Santee River, which emptied into the Atlantic Ocean north of Charleston. This canal was begun in 1792, and completed in 1800. Another early enterprise was the Middlesex Canal, connecting Boston with the Merrimac River a little to the north of Lowell. The Middlesex Canal was begun in 1793, and opened in 1808.[3] Neither of these projects could compare in importance, however, with the Erie Canal, the construction of which may fairly be regarded as ushering in the canal period in this country.

The Erie Canal was begun by the state of New York, after an attempt to secure national aid had failed, on July 4, 1817, and completed in 1825. It ran from Albany on the Hudson River to Buffalo on Lake Erie, thus providing a through route from the Atlantic Ocean to the Great Lakes. The length of the canal was 364 miles. This route was not the shortest in miles from New York City to Lake Erie, but it was the most economical, because the most level. The Allegheny Mountains, which extend in an almost unbroken chain from Alabama to New York state, pinch

[1] For a map of the canals in the United States in 1840, see Tanner, H. S., *A Description of the Canals and Rail Roads of the United States.*

[2] Some authors refer to the Dismal Swamp Canal as the first (or the first important) canal in the United States. Though it is true that the Dismal Swamp Canal Company was chartered in 1787, to build a canal between Chesapeake Bay and Albemarle Sound, the canal itself was not completed until many years later. See House Ex. Doc. no. 19, 45th Cong., 2nd Sess., 1877–1878, especially pp. 9, 69.

[3] Some authorities place the date at which the construction of the Middlesex Canal was begun before 1793; some place it after. The canal was opened during a portion of its route in 1804, and not finally completed until 1817. See MacGill, C. E., *History of Transportation in the United States before 1860*, p. 148.

out before the route of the canal is reached, and this enabled the East to be economically united with the West through the canal. The Erie Canal was a financial success from the outset, the entire cost of construction being defrayed out of the net revenues of the first ten years. It practically revolutionized the carrying business. In time the cost of transportation was reduced to one-tenth the former figure. Once the success of the canal was established, branch canals were constructed as feeders; and at the intersection of the canal with these feeders and with natural water courses towns and cities developed. This explains the growth of Rochester, Syracuse, etc. Moreover, New York City was established as the leading seaport on the Atlantic Ocean, to the disadvantage of Philadelphia, which, though nearer to the West in miles, was more distant from the standpoint of transportation costs. The mountain barrier, which imposed an effective obstacle to the construction of low cost transportation routes west from Philadelphia, imposed no obstacle along the line of the Erie Canal, and thus at last the Middle West secured the outlet to the ocean which it had long desired for its agricultural products.

The success of the Erie Canal, which was known even before 1825, because of the opening of sections of the canal prior to the completion of the entire project, stimulated the building of canals elsewhere. The state of Pennsylvania, not wishing to be outdone in the struggle for the western trade, began in 1826 a composite system of public works, which connected Philadelphia with Pittsburgh in 1834. This system consisted of a railroad from Philadelphia to the Susquehanna River at Columbia; a canal up the Susquehanna and Juniata rivers to Hollidaysburg; a portage railroad from Hollidaysburg across the mountains to Johnstown; and a canal from Johnstown to Pittsburgh, where connection was made with the Ohio River steamboats. The total length of the through route was nearly 400 miles. These public works promoted the growth of the state of Pennsylvania and the city of Philadelphia, but they were more expensive to construct and to operate than the Erie Canal; and so long as canals and rivers constituted the chief means of transportation the advantage was to lie with the level route through New York state.

A number of canals were also built in Pennsylvania at a comparatively early date in order to connect the anthracite coal fields of northeastern Pennsylvania with tidewater. These included the

Schuylkill Canal, from Pottsville to Philadelphia, completed in 1825; the Delaware and Hudson Canal, from Honesdale to the Hudson River (about half-way between New York and Albany), completed in 1829; the Lehigh Canal, from Mauch Chunk to Easton, completed in 1829; the Morris Canal, from Easton to Newark, New Jersey, completed in 1831;[1] and the Delaware Division Canal, from Easton to Bristol (a few miles north of Philadelphia), completed in 1832.[2] All of these canals except the Delaware Division Canal were built by private companies, and all of them were primarily anthracite coal carriers.

The states of Maryland and Virginia were also spurred to activity by the opening of the Erie Canal. As early as 1785 a company had been chartered in Virginia, with George Washington as President, to build a canal from the Potomac River near Washington to Cumberland, Maryland. After George Washington became President of the United States the project was not vigorously pushed, and the company finally failed. In 1828 a company having a joint charter from Maryland and Virginia took up the project. In that year, however, the construction of the Baltimore and Ohio Railroad was begun, and as a result the canal project failed to receive the necessary support. The Chesapeake and Ohio Canal, as it was called, was not completed to Cumberland until 1850; and by that time the superiority of railroad transportation had been sufficiently demonstrated to cause the abandonment of the proposed extension to the Ohio River.

In the West the most important canals were those connecting the Great Lakes with the Ohio and Mississippi rivers. In 1825 the state of Ohio began the construction of two canals to connect Lake Erie with the Ohio River, both of which were completed in the early thirties; and the state of Illinois began in 1836, and completed in 1848, the Illinois-Michigan Canal from Chicago on Lake Michigan to Lasalle on the Illinois River.

Many of these canals, together with other internal improvements, were built by the states. During the earlier period of road building the federal government had interested itself actively in internal improvements, the Cumberland Road being a conspic-

[1] We include this canal, despite the fact that it lay in the state of New Jersey, because it gave the Lehigh Canal Company an outlet at tidewater near New York City.

[2] On these canals, see the author's *The Anthracite Coal Combination in the United States*, ch. 1.

uous example of its interest. The federal government also lent aid to some improved water way projects, yet before the canal movement had made much progress doubts had arisen concerning the constitutionality of federal participation, and accordingly the burden of water way improvements fell principally upon the states. Even after the federal government withdrew, however, it continued to encourage the movement by grants of land and money. This aid, combined with the insistence of the people on the liberal expenditure of state funds for public improvements, led the states to overdo the matter. They built canals that did not pay, their unprofitableness being due partly to the fact that population and trade were not great enough to justify the expense, and partly to the competition of the new mode of carriage by rail. A number of state enterprises, moreover, were characterized by extravagance, mismanagement, and in some cases even corruption. The era was an intensely speculative one, in which there was little evidence of a disposition to count the cost. With the outbreak of the panic of 1837, however, the movement came practically to an end. Temporarily the states were hardly in a position to finance further canal construction, even had they the inclination. But they did not have the inclination. Their experience throughout the twenties and thirties exerted a sobering influence upon the people, and resulted in the gradual withdrawal of the states from such enterprises. New York and Ohio still retained their canals, but most of the states either abandoned them or sold them. Some even went so far as to repudiate the debts they had incurred, and practically all of the states that subsequently adopted new constitutions, or revised existing ones, embodied in them provisions forbidding the use of state funds or credit for internal improvements.

Another reason why the states did not care to go on with their canal enterprises was that by this time the railroad had begun to challenge the supremacy of the canal. Operation by canal was safe, and when conditions were favorable was cheap. But as compared with the railroad it was slow and uncertain. Navigation by canal was likely to be interrupted by freezing, floods, and summer's drought. Canals had to be built on a reasonably level route, whereas railroads could be built practically anywhere. These advantages of the railroad had become reasonably clear by 1840, and the result was that canal construction declined rap-

idly after this date, indeed soon practically ceased. The canals already constructed continued for a time to compete with the railroads, but new works were seldom begun. In these circumstances the states, had they chosen, might have undertaken the construction of railroads, rather than canals, and some of them did, as will appear in due course. Yet most of the states were no longer in the mood. As a rule they followed the example of the federal government some ten years earlier, and withdrew from works of internal improvement. As a result the task of railroad construction and operation, in which the states had also shared in the thirties, was left largely to private enterprise, assisted, however, as we shall show, by gifts of land and money from both the federal government and the states.

Railroads

The first American railroad, as we have seen, was the Baltimore and Ohio, chartered in 1827, and opened for traffic in 1830. Prior to this date several tramways had been built. These tramways were sometimes referred to as railroads, but they were not railroads in the modern usage of the term. The tramways were roads on which rails had been laid to facilitate the movement of the trams (or cars). The rails usually consisted of strong wooden beams, surfaced with a strip of iron. On some of these tramways horses supplied the motive power; on others the trams went downhill by force of gravity, and were pulled uphill by means of a stationary engine at the top of the grade. These tramways had long been in use in England, but the first one of note in this country was the Quincy tramway, three miles in length, built in Massachusetts in 1826.[1] This road was used to carry granite from the Quincy quarries to a landing on the Neponset River, whence the granite was carried by water to Charlestown (near Boston), for use in the construction of the Bunker Hill Monument. At the quarry end there was a steep incline, up and down which the trams (cars) were moved by a stationary engine; and from the foot of the incline the road sloped gently to the river. The cost of transportation on this tramway with horses as the motive power (except at the incline) was about one-sixth the cost on a

[1] Most authors refer to the Quincy tramway as the first in the United States. But see Ringwalt, J. L., *Development of Transportation Systems in the United States*, p. 69.

common highway. A similar road, nine miles in length, was constructed in 1827 to carry anthracite coal from a mine at Mauch Chunk, Pennsylvania, to the Lehigh River. This was a gravity road with stationary power at the summit of the grade. A third gravity road was one built by the Delaware and Hudson Canal Company, extending from the company's coal mines at Carbondale, Pennsylvania, to Honesdale, where the road connected with the canal from Honesdale to the Hudson River, referred to earlier. This road, sixteen miles in length, was completed in 1829. All of these roads served a useful purpose, yet each was built to carry a single commodity in only one direction.

The Baltimore and Ohio was the first railroad in this country constructed for the purpose of carrying passengers and general freight. It was chartered by the state of Maryland on February 28, 1827. This was not the first railway charter in this country, as is sometimes stated; one had been granted to Mr. John Stevens for a steam railroad from Trenton to New Brunswick, New Jersey, as early as 1815, but the requisite capital for this enterprise had not been forthcoming. Another charter earlier than that of the Baltimore and Ohio was one given by the state of New York in 1826 to the Mohawk and Hudson Railroad, built from Schenectady on the Erie Canal to Albany on the Hudson River. We shall refer later to the Mohawk and Hudson, but at this point it suffices to say that this railroad, despite the fact that it was probably the first to receive a charter under which construction was carried out, was both begun and completed after the Baltimore and Ohio. To return to the latter, the cornerstone was laid on July 4, 1828. The act was performed by Mr. Charles Carroll, the only surviving signer of the Declaration of Independence. After the ceremony, so it is reported, Mr. Carroll stated that he regarded this act as second in importance only to the signing of the Declaration of Independence, if indeed it was second to that. As President Hadley, writing in 1885, put it, "one man's life formed the connecting link between the political revolution of the last century and the industrial revolution of the present."

The first section of the Baltimore and Ohio, about thirteen miles in length, was opened in May, 1830. The train run on this occasion was drawn by horses, a fact that well shows how primitive the beginnings of the railroad were. Indeed experiments were made with cars fitted with sails, and with horse-power loco-

motives. Under the latter arrangement a horse was placed in a specially constructed car, and made to walk upon an endless belt, by which means motion was communicated to the wheels. The horse-power locomotive was given up because of an unfortunate accident. One day while drawing a car filled with representatives of the press the locomotive ran into a cow, and as the result of the collision the purveyors of news were rolled down the embankment. The ridicule to which they subjected the horse-power locomotive proved to be too great for its sponsors, and the locomotive was therefore abandoned.

The failure of the Baltimore and Ohio to employ a steam locomotive on its first run was due to the fact that this means of propulsion had been demonstrated to be a success only a few months previously, and the demonstration had been made in England, not in this country. The demonstration was made by Mr. George Stephenson, with his famous Rocket.[1] In 1829 the Liverpool and Manchester Railroad was nearing completion. The directors, being uncertain what motive power to employ, decided to offer a prize of £500 for a locomotive meeting certain specifications. In a trial test in October, 1829, Mr. Stephenson propelled his Rocket at a speed of 29 miles an hour. That this was quite an achievement is indicated in the assertion of an eminent citizen of Liverpool that he "would undertake to eat a stewed engine-wheel for his breakfast" if any one ever made a locomotive engine go ten miles an hour. History does not record whether he kept his promise, but Mr. Stephenson won the prize, and of more importance fully established the practicability of mechanical traction. This achievement ushered in a great advance in the technical progress of the world, though the first locomotives were of course very small as compared with the modern leviathans. The early locomotives weighed from three to five tons, whereas the largest one built up to 1921 weighed 449 tons. Even before the successful experiment of the Rocket another locomotive, the Stourbridge Lion, imported from England, was run (in August, 1829) on the Delaware and Hudson tramway, to which we have already referred. This was the first locomotive to run on a railroad track in America.[2] The Stourbridge Lion functioned successfully, but it

[1] On the early locomotives in England and America, see Brown, W. H., *The History of the First Locomotives in America.*

[2] See Brown, W. H., *The History of the First Locomotives in America.*

proved to be too heavy for the trestles, which had been built to sustain horses, and not heavy locomotives; and after the trial trip it was not used again. The performance of the Rocket two months later, however, conclusively established the success of locomotive traction.

Another demonstration of great importance was made on the Baltimore and Ohio Railroad itself in August, 1830, by the Tom Thumb. Mr. Peter Cooper, subsequently the founder of Cooper Institute in New York City, was financially interested in the success of the Baltimore and Ohio Railroad through the ownership of a tract of land, the value of which was dependent on the successful operation of the railroad. Doubts having been expressed as to the ability of steam locomotives to pass around the short curves of the railroad, Mr. Cooper constructed the Tom Thumb for the purpose of dispelling these doubts. The locomotive was a very small one, as one might gather from its name. It had little more drawing power than one horse; in fact it was a working model rather than a regular locomotive. The first experiment, made in the summer of 1829, was not very successful, but after the making of certain alterations a successful experiment was made in August, 1830. The Tom Thumb, though weighing only a ton, hauled 4½ tons around curves and up grades (acclaimed by many doubters as impossible because contrary to the laws of mechanics) at a speed of about thirteen miles per hour. In one sense the Tom Thumb was the first locomotive ever constructed in America, yet in view of the fact that it was built as a working model and not for regular service this distinction is usually accorded to the Best Friend, first used on the South Carolina Railroad.

The South Carolina Railroad, or the Charleston and Hamburg Railroad, as it is often called, was the second railroad built in this country.[1] Like the Baltimore and Ohio it was built to secure for a particular city the trade of the hinterland. Charleston, South Carolina, and Savannah, Georgia, both seaports, were in competition for the trade of the central Georgia cotton belt. Savannah had an advantage in this competition through its location at the mouth of the Savannah River. To overcome this ad-

[1] On this road, see Phillips, U. B., *A History of Transportation in the Eastern Cotton Belt*, ch. 3, and Brown, W. H., *The History of the First Locomotives in America*.

vantage the citizens of Charleston built the South Carolina Railroad, extending from Charleston to Hamburg on the Savannah River, 136 miles distant. The railroad was chartered in December, 1827, and again in January, 1828. It enjoys the distinction of being the first road in this country expressly designed for steam locomotion. In January, 1830, the directors formally voted to adopt steam as the motive power. Trial trips of the Best Friend, the first practical locomotive built in the United States, were held late in 1830; and in January, 1831, though the line was not yet finished, a regular passenger service was instituted. The road from Charleston to Hamburg was completed in September, 1833. At that time it was the longest line in the world under one management; and its operation was regarded as one of the marvels of the age.

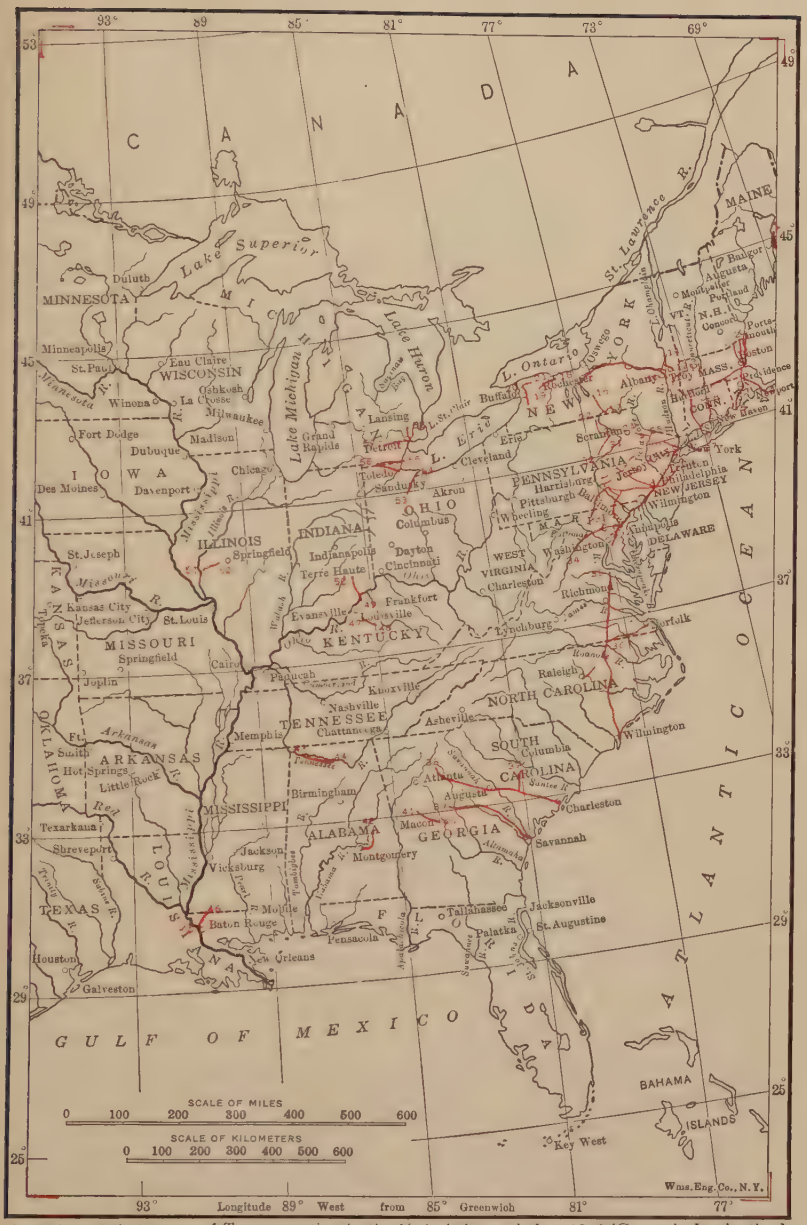
During the decade after 1830 there were built 2,795 miles of line, the total mileage in 1840 being 2,818.[1] The leadership in railway construction during this decade was taken by the state of Pennsylvania. Spurred on by the success of the Erie Canal, the state began the construction in 1826 of an extended system of public works to connect Philadelphia with the Ohio River at Pittsburgh. These works, as planned in 1826, were to be principally canals, but a law of 1828 provided that the section from Philadelphia to Columbia (on the Susquehanna River) should be a railroad, rather than a canal. This railroad, 81 miles in length, was opened in 1834. The Philadelphia and Columbia Railroad was "not only one of the earliest works of its kind in this country, but the first railroad undertaken in any part of the world by a government." The primitive character of these early railway projects is indicated in the fact that when a steam locomotive was first employed on this road in 1834 the officers deemed it advisable to send along a horse car also, which could be used in case of a breakdown. That there was justification for their lack of confidence is shown by the further fact that the passengers were occasionally required to get out and push. Additional evidence of the primitive conditions is afforded by the statement that the Philadelphia and Columbia Railroad was a public highway, upon which any one was permitted to run a car. Indeed, with a few exceptions, such as the Baltimore and Ohio, the early rail-

[1] The figures of mileage are taken from the Statistical Abstract of the United States.

road charters expressly provided that the road might be used by any one who would supply the necessary cars, and conform to certain rules of operation. The early railroads were often treated as if they were turnpikes, which might be used by any one upon payment of a toll; but it did not take very long to learn that this was not a satisfactory mode of operation.

The leading part played by the state of Pennsylvania in railroad construction was due not only to the desire for a through route to the West, but also to the initiative of its citizens in creating outlets for the anthracite coal of the northeastern part of the state, of which coal the state of Pennsylvania has practically a monopoly so far as this country is concerned. To bring this coal to tidewater, a number of railroads (as well as canals) were built, prominent among them being the Philadelphia and Reading. This road was chartered in 1833, and by 1838 had been opened between the cities of Philadelphia and Reading. The connection with the coal fields was secured in 1842 by the extension of the line to Pottsville. Subsequently the road was further extended; and at the present time it is the leading carrier of anthracite coal.

The state of New York was second, in 1840, in the mileage of its railway system. The first railroad in this state was the Mohawk and Hudson, chartered in 1826. This road owed its origin to the rivalry of the cities of Schenectady, Troy, and Albany. Schenectady was on the Erie Canal a little to the west of Troy; Troy was on the Erie Canal where it strikes the Hudson River coming down from the north; and Albany, the terminus of the canal, and also upon the Hudson River, was a little south of Troy. Each of these towns hoped to become the center of traffic for the surrounding territory, with Troy probably enjoying the advantage of location. To overcome this advantage the Mohawk and Hudson was built from Schenectady to Albany. The road constituted the hypotenuse of a triangle, the other two sides of which were made up of a line from Schenectady to Troy and a line from Troy to Albany. Since the hypotenuse is shorter than the sum of the other two sides, the distance from Schenectady to Albany was less than the distance from Schenectady east to Troy, and from Troy south to Albany. The saving was considerable, the distance being sixteen miles by the railroad and thirty miles by the canal. For passenger traffic this was a decided gain, especially in view of the inevitable delay in proceeding through the locks, but for



After MacGill, *History of Transportation in the United States before 1860* [Carnegie Institution].

RAILROADS IN THE UNITED STATES IN OPERATION IN 1840

freight traffic the necessity of transshipment when the railroad and canal were both used as a part of a through route gave the advantage to the canal.

The successful completion of the Mohawk and Hudson encouraged further railroad enterprises. An account can not be given of more than a few of the early railroads, but mention should be made of the series of roads between Albany and Buffalo that eventually (in 1853) became the New York Central. In 1833 the Utica and Schenectady was chartered, and in 1836 it was completed. This road was independent of the Mohawk and Hudson, but it established through rail connection from Albany to Utica, a distance of 93 miles. The charter of the Utica and Schenectady forbade it to carry freight. This restriction on its business was due to the opposition of those interested in the Erie Canal; and it was not removed entirely until 1851. Other roads in the chain that was subsequently to become the New York Central were the Utica and Syracuse, the Syracuse and Auburn, the Auburn and Rochester, the Tonawanda (from Rochester to Batavia, and from Batavia to Attica), and the Attica and Buffalo. The road from Attica to Buffalo, the last link in the chain, was not completed until 1842. All of these roads in central New York had a uniform gauge of 4 feet 8½ inches, now the standard gauge in this country. This fact facilitated their combination, along with some other roads, into the New York Central in 1853, the consolidation being authorized by an act of the New York legislature in that year. Such uniformity of gauge was by no means characteristic of the railroads generally, a circumstance that greatly hampered the development of through traffic, and that subsequently occasioned a heavy expense when the change to a uniform gauge was made.

The state of Massachusetts occupied third place in 1840 in the extent of railway mileage. Boston, the commercial center of New England, was at a disadvantage in competition with New York, Philadelphia, and Baltimore in not having a natural water route into the inland territory. The topography of the country, moreover, made canal construction difficult and expensive. Accordingly the commercial interests of Boston and surrounding territory proceeded to develop railroads. During 1830–1831 there were chartered the Boston and Lowell, running from Boston to the northwest; the Boston and Worcester, from Boston to the

west; and the Boston and Providence, from Boston to the southwest. These three roads were completed almost simultaneously in the summer of 1835. The Boston and Lowell was built "for eternity." The cross-ties, supporting the iron rails, were so solid that the locomotives and cars were rapidly pounded to pieces, and it soon became necessary to substitute more elastic materials. The Boston and Lowell and the Boston and Worcester were given exclusive rights for a limited period in the territory traversed by them, a privilege that was frequently conferred upon the early railroads. The attitude of the people toward railroads was illustrated by the toast offered by a former governor of Massachusetts upon the celebration of the completion of the Boston and Worcester: "Railroads. We are willing to be rode hard by such monopolies." As Charles Francis Adams later remarked, had any prophet then predicted that within the lifetime of those present at this celebration there would arise a political party which would denounce the builders of railroads as "vampires," and the operators thereof as the "robber barons of modern civilization," he would have met with a storm of jeers and contumely.

The states of Pennsylvania, New York, and Massachusetts possessed approximately one-half of the country's mileage in 1840. The remaining mileage was scattered among seventeen states, according to Poor's Manual. Among the other states that were making a good beginning were Maryland, with the Baltimore and Ohio; New Jersey, with the Camden and Amboy, incorporated in 1830, and long one of the most odious monopolies in railroad history; South Carolina, with the Charleston and Hamburg, in 1833 the longest line under one management in the world; and Georgia, with the Central of Georgia, extending northwest from the port of Savannah, and also with the Georgia Railroad, extending northwest from the western terminus of the Charleston and Hamburg. Most of the railroads at this time radiated outward from cities on the Atlantic Coast, for example, Boston, New York, Philadelphia, Baltimore, Norfolk, Wilmington, Charleston, and Savannah. In the West there was less railroad building. Throughout the greater part of this region there was as yet no considerable number of people, no large cities serving as centers of distribution for the surrounding territory, and no adequate supply of capital; and where these obstacles were not present the energies of the states and of their citizens were being expended in the construction

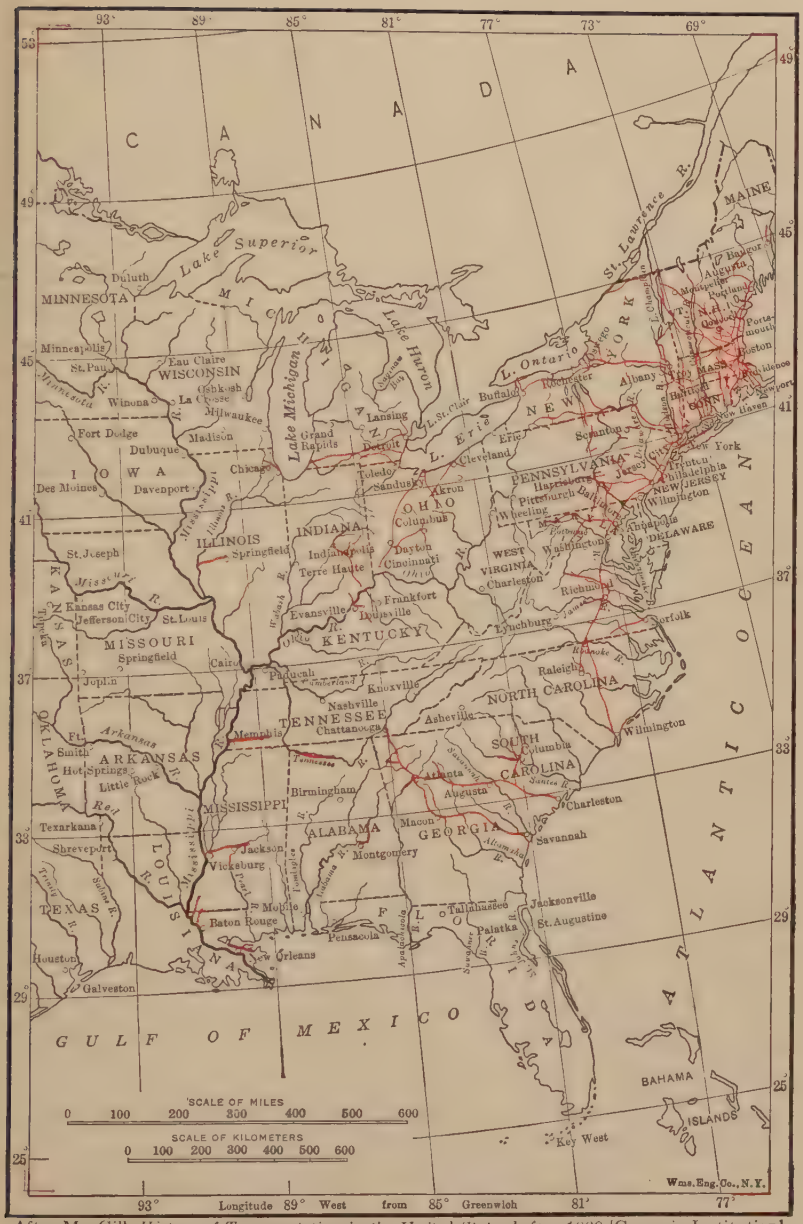
of canals. The railway development of the West was to come, therefore, in the subsequent decades.

Having described briefly the progress of railway construction during the thirties we may mention some of the characteristic features of the railways of this period. Most of the railroads constructed during this early period, especially during the first half of the decade, were detached enterprises, designed to serve local needs. They were built to enlarge the territory in which an important city could distribute goods, or to connect one city with another, or to provide a connecting link between natural or artificial water ways. Few of the railroads built before 1835 were expected to compete successfully with the canals; indeed not until the Boston and Lowell Railroad demonstrated its ability to divert traffic from the Middlesex Canal were the potentialities of the railroad fully grasped. Not only were the railroads built to serve local needs, but they were often built so as to prevent the easy interchange of freight, and thus the development of through traffic. The principal obstacle of this nature was the diversity in gauge. The New England roads and the roads of central New York generally had the standard gauge of 4 feet 8½ inches; the southern roads a gauge of 5 feet, following the example of the South Carolina Railroad; and the roads of Pennsylvania and Ohio a great variety of gauges. This defect was to continue for a long time. As late as the end of the Civil War there was no uniformity of gauge; indeed not until the middle of the eighties was the standard gauge generally adopted throughout the country. The period from 1830 to 1840 was also one of experimentation in motive power, cars, tracks, etc. Many costly mistakes were made, but this was an inevitable adjunct of the process of evolving a new and more efficient transportation machine. Because of the experimental character of railways and the desire of the people for improved transportation facilities it was natural that the states should lend aid to their construction,—and especially after the distribution in 1837 by the federal government of its surplus revenue, a move that placed the states in possession of additional means. The aid to railroads took many forms. One of the most common was the purchase of stock. Thus the state of Maryland subscribed to $500,000 of the stock of the Baltimore and Ohio in 1828, and to $3,000,000 in 1836. Other forms were the purchase of bonds, the donation of cash or state securities,

loans, tax exemption, and exclusive privileges. A number of the states even granted the railroads banking powers, as, for example, the Central of Georgia Railroad and *Banking* Company and the Georgia Railroad and *Banking* Company. There were a number of instances also of construction and operation by the state.

To such state construction and state aid there was naturally opposition on the part of the other agencies of transportation. The investors in turnpike, stagecoach, and canal companies placed numerous obstacles in the way of the new means of transportation. They were seconded therein by the business interests dependent on the success of the older modes of transportation, as, for example, the tavern keepers and draymen along the lines of the stagecoaches and canals. There was resistance from farmers, who feared a loss of their market for hay and grain. Every new device, indeed, is likely to be resisted by vested interests, but the railroad was so superior to the older means of transportation that its opponents could only delay its progress; they could not prevent it.

During the decade after 1840 there were built about 6,200 miles, the total mileage in 1850 being 9,021. Railway construction was not very rapid except in New York and in New England, especially Massachusetts. The greatest growth was in New York state, which by 1850 had more mileage than any other state, Pennsylvania being relegated to second position. A through route (by a succession of local roads) from Albany to Buffalo had been created as early as 1842; and a through route from New York City across the southern section of New York state to Lake Erie was upon the point of completion. The latter route was being built by the Erie Railroad (then named the New York and Erie), which had been chartered in 1832, and which reached Lake Erie in 1851. This road was subsequently to become notorious in Wall Street, and to go through a series of financial frauds from which it has not yet recovered. In Massachusetts a through route (under separate management) was opened between Boston and Albany. The Western Railroad had been incorporated in 1833, with the intention of making it a part of a through line from Boston to Albany. The Boston and Worcester had been chartered in 1831, and the Western was to extend the route from Worcester westward. In 1841 the Western Railroad was completed to the Massachusetts-New York boundary line, and by means of the



After MacGill, *History of Transportation in the United States before 1860* [Carnegie Institution]

RAILROADS IN THE UNITED STATES IN OPERATION IN 1850

Albany and West Stockbridge (a lease of which was taken by the Western) the latter reached Albany in December, 1841. For a short while the Western had to use a portion of another road to get to Albany, but in 1842 the Albany and West Stockbridge filled this gap, and thereafter the line from Worcester to Albany was under one control. It had been supposed that the whole line from Boston to Albany would be managed as a unit, but for a number of years the Boston and Worcester was operated as an independent section of what should have been one line. Subsequently, in 1870, the Boston and Worcester, the Western, and the Albany and West Stockbridge consolidated to form the Boston and Albany Railroad. In 1842 the Boston and Maine was organized as a combination of four railroads in Massachusetts, New Hampshire, and Maine; and in 1849, by the opening of the New York and New Haven, the last link in the first all-rail route from Boston to New York City was completed.

In Pennsylvania an event of importance was the chartering, in 1846, of the Pennsylvania Railroad, to build a line from Harrisburg to Pittsburgh. This road was subsequently to become one of the country's greatest railroads. In the West mention may be made of an all-rail line from the Ohio River at Cincinnati (then the leading western city) to Sandusky on Lake Erie; and of the Michigan Central from Detroit to Lake Michigan, opening a rail and lake route from New York City to Chicago (now the railroad center of the United States). Both of these roads were completed between the points named by 1850.

Railways were thus making good progress, yet it was still true in 1850 that they were secondary in importance to the water routes by canal, river, and lake. The water routes still constituted the principal freight carriers of the country. The railroads that had been built prior to 1850 were regarded in the main as feeders to the canals, rivers, and lakes, or as connecting links between the seacoast and the inland waters, and between the Great Lakes and the Ohio and Mississippi rivers. Yet not for long was railway transportation to be regarded as a supplement to water transportation; indeed by the end of the ensuing decade the water routes were definitely relegated to a secondary position.

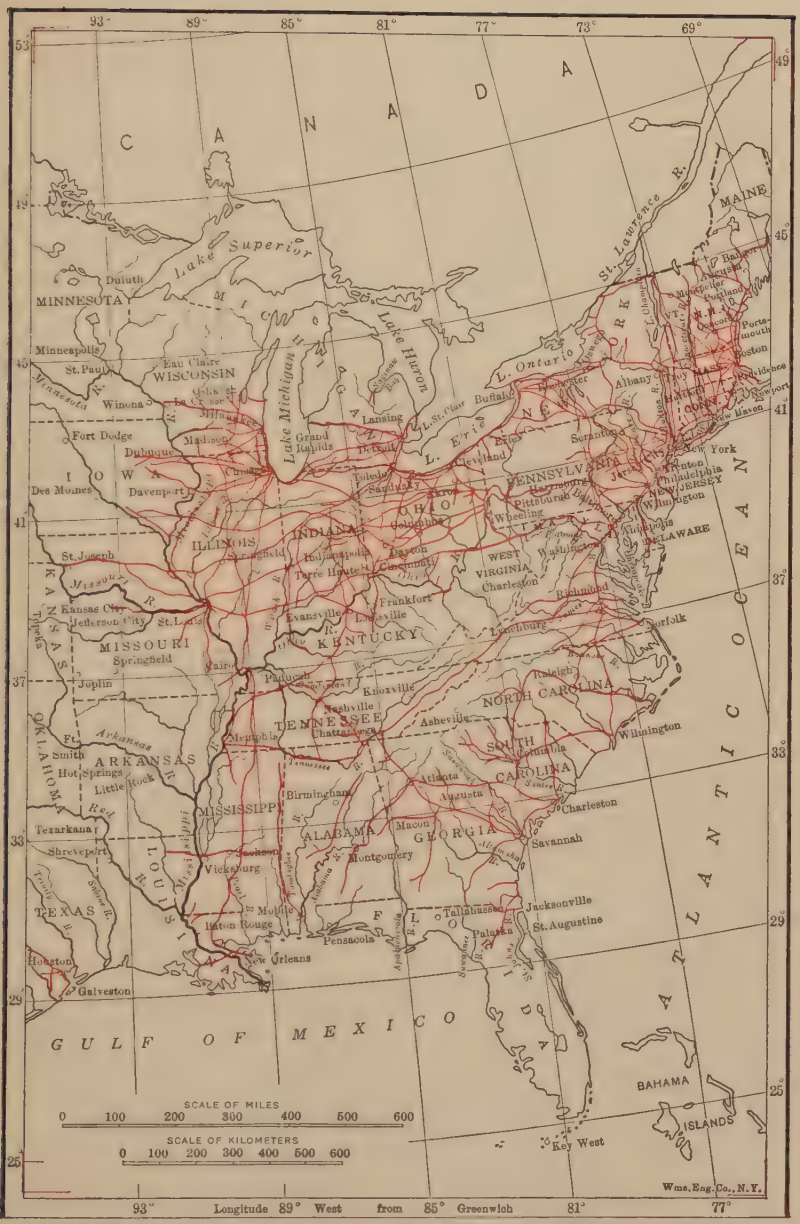
During the decade from 1850 to 1860 the railway net was rapidly extended. The total mileage increased from 9,021 in 1850 to 30,626 in 1860,—a gain of over 21,000 miles. The greatest

amount of building was in Illinois, Ohio, and Indiana, these three states accounting for nearly one-third of the total increase. There was much activity in New York and Pennsylvania also, yet by 1860 these states had been outstripped by both Illinois and Ohio as regards total mileage. In New York the Hudson River Railroad, later to become a part of the New York Central system, was completed from New York City to Albany in 1851; and in the same year the New York and Erie (now called the Erie) was completed from the Hudson River, at a point a few miles north of New York City, to Dunkirk on Lake Erie. An entrance into Jersey City, on New York Harbor, was speedily secured. These roads opened up two lines of railroad from New York to Lake Erie. The Erie, though the first continuous railroad line across the state, was very unfortunate in having no connections. It was constructed to open up to New York City the trade of southern New York, and in order to make sure that none of this trade went to Philadelphia or other competing centers the railroad was forbidden, by its charter, to connect with any other road in Pennsylvania or New Jersey. In the same year (1851) a noteworthy project was completed in the South. This was the Western and Atlantic, built by the state of Georgia, and the most outstanding example in American history of state ownership and operation of railroads. This line extended from Chattanooga on the Tennessee River (a navigable branch of the Ohio) to a town that was later given the name of Atlanta. The Western and Atlantic called Atlanta into existence, and made it the gateway from the middle west to the eastern cotton belt.[1] The following year (1852) the Baltimore and Ohio Railroad finally reached Wheeling on the Ohio River. In the state of Pennsylvania the construction of the Pennsylvania Railroad was proceeding. The line from Harrisburg to Pittsburgh was completed in 1852.[2] In 1857 the Pennsylvania purchased from the state the Philadelphia and Columbia Railroad, and extended it from Columbia to Harrisburg. The first through train, involving no transfer of passengers, moved over this line from Philadelphia to Pittsburgh in 1858.

It was in the Middle West, however, that the greatest progress

[1] By 1860 Atlanta had rail communication with the Atlantic Ocean at Savannah, with the Ohio River at Louisville, with the Mississippi River at Memphis, and rail and water communication with the Gulf at Mobile.

[2] At this time the old portage railroad, a part of the state works, was being used for the mountain section.



After MacGill, *History of Transportation in the United States before 1860* [Carnegie Institution].

RAILROADS IN THE UNITED STATES IN OPERATION IN 1860

was being made. In 1851 the Cleveland, Columbus and Cincinnati opened a second line from Lake Erie to the Ohio River; and in 1852 the Cleveland and Pittsburg opened a third. In the same year the Michigan Central and the Michigan Southern, both extending west from Lake Erie across southern Michigan, reached Chicago. In this year also a series of roads connecting Buffalo with Cleveland was completed. In 1853, by the construction of a railroad from Cleveland to Toledo, where connection was made with the Michigan Southern, through rail communication from the Atlantic seaboard to Chicago was first secured. In 1854 the Chicago and Rock Island (now the Chicago, Rock Island and Pacific) connected Chicago with the Mississippi River at Rock Island, Illinois, and thereby joined the Great Lakes and the Father of Waters, an event of great significance for the people of the Middle West. In 1859 the Hannibal and St. Joseph connected the Mississippi and Missouri rivers by an intervening iron band,[1] though this road was not an extension of the line completed to the Mississippi River further north in 1854. Meanwhile, in 1856, the first railroad in the far West was built. The Sacramento Valley Railroad was constructed from Sacramento (in the central portion of California but connected by water with San Francisco) to Folsom in the gold mining regions, then the most populous section of the state. In 1856, also, the Illinois Central, now extending from Chicago to New Orleans, was opened to Cairo, at the junction of the Mississippi and Ohio rivers. The Illinois Central, with its 700 miles (including branches), was then regarded as the most stupendous undertaking in the world. Its construction through the thinly settled interior counties of a western state has been acclaimed as a project equal in magnitude in its time to the building of the Panama Canal in our own time. Finally, to enumerate one more undertaking of the many that might be mentioned, the Pittsburg, Fort Wayne and Chicago was completed in 1858, providing the second great trunk line from the Atlantic Coast to Chicago, the eastern connection being supplied by the Pennsylvania Railroad.

The decade from 1850 to 1860 is notable not only because of the excellent headway being made in the field of railroad construc-

[1] Several distinguished authors give the date of the completion of the Hannibal and St. Joseph as 1858, but this is incorrect. See *Annual Report of the Hannibal and St. Joseph*, 1858–1859, p. 19.

tion, but also because of a number of other developments. During this decade distinct progress was made in combining short roads, built for local purposes, into through systems. Prominent among these end-to-end combinations was the New York Central, organized in 1853 to unite the several independent local roads from Albany to Buffalo; and the Pennsylvania, organized in 1846, but not possessing until the late fifties a continuous line of railroad from Philadelphia to Pittsburgh. The construction of through routes, such as the Erie and the Baltimore and Ohio, and the consolidation of local lines into through systems, such as the New York Central and the Pennsylvania, resulting in the creation of trunk lines of considerable length, naturally increased the competition for traffic between the Atlantic Coast and the interior country. Not until the following decade, however, did this competition become intense.

During the fifties the railroads conclusively demonstrated their superiority to the canals. It is difficult to say at just what date the superiority of the railroads was established, because this superiority was apparent to men of exceptional vision long before it was apparent to all. Indeed as early as the thirties the advantages of railroads over canals in numerous respects were quite apparent, and there were many who foresaw the ultimate downfall of the canals. However, even as late as 1850 the railways might still fairly be regarded as supplementary to the canals and other water routes, though meanwhile the number of railroad followers had greatly increased. But by 1860 the outcome was no longer in doubt. A number of canals had already been abandoned, and most of the rest were eventually to give up the struggle. A few of the more favorably situated, however, such as the Erie Canal, are still in operation, though tolls are no longer charged for the use of this canal, and therefore its continued use is perhaps to be attributed to the enjoyment of what is really a state subsidy.

Another striking feature of the fifties was the inauguration on a large scale of congressional land grants to railways. By the passage of an act in September, 1850, Congress gave some 3,750,000 acres of the public domain to the states of Illinois, Mississippi, and Alabama, to be used by them in encouraging the construction of a railroad from Chicago to Mobile, Alabama. The government gave away the alternate even-numbered sections for six miles on each side of the projected roads, retaining for its own

benefit the odd-numbered sections. The gift really cost it nothing, since the construction of the railroad improved the market for the odd-numbered sections, the price of which was immediately advanced to double the former figure. The land received by the state of Illinois was shortly turned over to the Illinois Central Railroad, which was incorporated early in 1851, and which built a railroad from Cairo (at the junction of the Mississippi and Ohio rivers) to Lasalle (the southern terminus of the Illinois and Michigan Canal), with branches northeast to Chicago and northwest to the Mississippi River. This line was completed in 1856, as we have seen; and was then one of the wonders of the world. The land given to the states of Mississippi and Alabama was transferred to the Mobile and Ohio Railroad, which built a railroad from the Ohio River at Cairo to Mobile, on the Gulf of Mexico. The Mobile and Ohio after leaving Cairo passes through a portion of Kentucky and Tennessee, but no land was given to these states, because the federal government owned none within their borders. Similar grants followed to Arkansas, Florida, Louisiana, and Missouri in the South, and to Iowa, Michigan, Minnesota, and Wisconsin in the North, the sectional interests of the South and North being "played off against one another in this scramble for spoils." Once the policy of congressional grants from the public domain was adopted it became the general rule, though the government was soon (in the early sixties) to bestow the land upon the railroads directly, and in much larger quantities.

Another feature characteristic of the fifties was the continued movement of the states away from direct participation in railway enterprises. Despite the unfortunate experiences of the states in canal construction, a few had built and operated railways on their own account. These states included Pennsylvania in the East;[1] Illinois, Indiana, and Michigan in the West; and Georgia, North Carolina, and Virginia in the South. The view was early held that the states might find it desirable to extend the range of their activity, and accordingly there was frequently inserted in the early railway charters a provision authorizing the state, after a certain number of years, to take over the railway property upon making adequate compensation to the owners. Instead

[1] The state of Massachusetts took over the Hoosac Tunnel enterprise in 1863, upon the failure of the railroad that was building it, but this is a special case.

of availing themselves of this privilege the states decided to dispose of their own works to private corporations. The result was that by 1857, in which year the state of Pennsylvania sold its railways to the Pennsylvania Railroad, every state except Georgia and Virginia had sold its railways to private parties.

By 1870 (the end of the next decade) the total mileage had increased to 52,922. This was not a very large increase, being only slightly more than during the preceding decade. The principal explanation of the relatively poor showing is the Civil War, during the prosecution of which railroad construction fell off markedly. Of the mileage added during 1861 to 1870 nearly 80 per cent was built in the five years following the termination of the war. The greatest progress was made in Iowa, but Pennsylvania and Illinois were not very far behind. At the close of the decade Illinois had the greatest mileage, with Pennsylvania and New York second and third. Ohio, which had led the list in 1860, was now down to fourth place.

During this decade the combination of end-to-end lines continued. Notable in this connection were the Pennsylvania Railroad and the New York Central. In 1869 the Pennsylvania leased the Pittsburg, Fort Wayne and Chicago, and thereby secured a through line under one management from Philadelphia to Chicago. In the same year the New York Central, with a line from Albany to Buffalo, consolidated with the Hudson River Railroad, running from New York City to Albany, to form the New York Central and Hudson River Railroad. As this road was controlled by Commodore Vanderbilt, who also controlled the Lake Shore and Michigan Southern (a combination in 1869 of lines from Buffalo to Chicago), the New York Central interests likewise enjoyed a through route from the Atlantic seaboard to Chicago.

One of the most significant railroad events of this decade was the completion of a line from the Missouri River to the Pacific Coast at Sacramento, California, with water communication by the Sacramento River to San Francisco Bay. For many years Congress had discussed the matter of a railway to the Pacific, but nothing had come of it. The discovery of gold in California in 1848, followed by the westward movement of the "forty-niners", increased the public interest in the project, and Congress was induced in 1853 to pass an act providing for a survey to determine the most practicable route from the Mississippi River to the Pa-

From Johnson and Van Metre, *Principles of Railroad Transportation* [D. Appleton & Co.].

MAP OF THE UNITED STATES SHOWING RAILROADS IN 1870

cific Ocean. Nothing further was accomplished, however. The southern states wanted a southern route, and the northern states a northern route; and the bitterness between the South and the North was so great at this time that no action was possible. In 1861, however, the southern states seceded from the Union, and the Civil War resulted. Their action not only removed the difficulties in the matter of selecting a route, but made a connection between the East and the Pacific Coast a military and political necessity. Accordingly in 1862 Congress passed an act to aid in the construction of a railroad to the Pacific. The act incorporated the Union Pacific Railroad, and authorized it to build a line from Nebraska to the western boundary of Nevada. The section eastward from the Pacific Coast was to be built by the Central Pacific Railroad, which had been incorporated in California in 1861.

The aid granted by this act proved insufficient to attract the requisite capital, and therefore the act was amended in 1864. The amended act gave the Union Pacific and the Central Pacific twenty sections of land for each mile of line constructed. The Union Pacific, which built from Omaha (on the Missouri River) to Promontory Point (near Ogden), Utah, received about 12,000,000 acres; and the Central Pacific, which built from Sacramento to Promontory Point, received over 10,000,000 acres.[1] These grants of land, unlike those of the fifties, were made direct to the railways, and not through the states as intermediaries. In addition both railroads were authorized to sell government bonds, bearing 6 per cent interest, to obtain a portion of the requisite capital. The amount of bonds they might sell varied from $16,000 per mile for the level stretches up to $48,000 per mile for the mountainous stretches. To safeguard its loan the government took a second mortgage on the property, the companies being permitted to issue their own bonds, which were to be a first mortgage on the property. Under these provisions both companies received over $27,000,000 of government bonds.

The obstacles to be overcome in the building of the two roads were enormous. Both were quite distant from the base of supplies (there was no railroad from the East to Omaha until 1867);[2] both

[1] This included the land given to a company to build a railroad from Sacramento to San José, 47 miles south of San Francisco, which company was consolidated with the Central Pacific in 1870.

[2] In this year the Chicago and Northwestern Railroad reached Council Bluffs, Iowa, just across the river from Omaha.

had to cross mountains and deserts; and the Union Pacific in particular was sorely troubled by the Indians. Nevertheless construction proceeded rapidly. For this there was an especial reason. It was expected that the Union Pacific and Central Pacific would meet at the western boundary of Nevada, but in order to promote their early construction it was provided in the Act of 1862 that if either company reached this point before the other, it might continue its line until a junction was effected. In order to obtain the government subsidy, which depended on the mileage completed, the two roads engaged in a feverish and expensive race. The junction was effected near Ogden, Utah, on May 10, 1869.[1] Until this date the Union had still been incomplete, but the East and West were now bound together by indissoluble ties. Economically, moreover, the results were to be far-reaching, as all who are familiar with the wonderful development of the Pacific Coast section will readily agree.

The Union Pacific and Central Pacific Railroads were by no means the only ones to receive large land grants from Congress for railways to the Pacific. Grants were made on a liberal scale to other roads that were to connect with the Union Pacific, and also to independent transcontinental lines. For example, in 1864 a large grant was made to the Northern Pacific Railroad, chartered by Congress, to enable it to build a railroad from Lake Superior to Puget Sound (on the Pacific Coast); and in 1866 a federal charter and a large grant was given to the Atlantic and Pacific Railroad (now a part of the Atchison, Topeka and Sante Fe) for a line from Missouri to California along the route of the old Santa Fe trail. The Southern Pacific Railroad, which had been incorporated in California in 1865 to build a railroad from San Francisco to the eastern boundary of California, was authorized to connect with the Atlantic and Pacific at or near the eastern boundary, and was also given a grant of public lands. The last congressional land grant was made in 1871, at which time a fourth transcontinental line, from New Orleans to southern California, was provided for. The principal beneficiaries of this grant were the Southern Pacific and the Texas and Pacific. Between 1850,

[1] The roads came together at Promontory Point, some fifty-three miles west of Ogden, but the Central Pacific later acquired from the Union Pacific the line from Promontory Point to Ogden. Subsequently, with the building of the cut-off across Great Salt Lake, Promontory Point became only twenty-three miles distant from Ogden.

when the federal government inaugurated its policy of land grants to railways, and 1871, when it abandoned it, the federal government offered the railroads over 150,000,000 acres of the public domain. Not all of this land was actually received, because of inability or failure to conform to the conditions laid down by Congress, but the amount that was received was truly enormous.

The decade of the sixties, in marked contrast to the following decade, was characterized by a reliance upon competition to protect the public against unreasonable charges. The people believed that if sufficient railroad lines were built, unrestrained competition would effectively safeguard the public welfare. The people therefore interested themselves in the question of railway construction, which they furthered by liberal aid, and paid little attention to the question of railway regulation. A beginning was made, to be sure, in the creation of state railway commissions. Thus, Ohio, in 1867, and Massachusetts, in 1869, created commissioners to supervise the railways within their borders, but these commissions were advisory merely, that is, without powers of effective regulation. It was only as the defects of competition as a regulator of railway rates and profits became apparent, as it shortly did, that the people transferred their attention from construction to regulation.

During this decade a number of notable improvements were made in railway operation. Steel rails were first used in this country in 1863, a number being imported from England for this purpose by the Pennsylvania Railroad. Shortly thereafter their manufacture in this country was begun. About the same time iron bridges began to displace wooden. Within this period Pullman sleeping cars, dining cars, and parlor cars were introduced; and the air brake was successfully applied to passenger trains.

Mention may also be made of the organization for the first time of national railroad unions. In 1863 the Brotherhood of Locomotive Engineers was formed, and in 1868 the Order of Railway Conductors. There was naturally a close connection between the creation of large railroad systems and combinations and the creation of railroad unions. Obviously the railroad employees could not bargain effectively with their employers unless they made their organizations as extensive in scope as those with which they had to deal.

Between 1870 and 1880 the railway mileage increased from

52,922 to 93,262. The gain during this period was nearly twice as great as during any of the preceding decades. The amount of new construction was especially great during the early seventies; in 1871, for example, 1300 more miles were built than in any previous year. The construction mania of the early seventies was responsible in large measure for the panic of 1873, which was followed by a long period of industrial depression during which railway construction markedly declined. Thus, during the five years from 1874 to 1878 the increase in mileage was only 11,479, whereas during the other five years of the decade it was two and one-half times as great. The leadership in railway building during this decade was taken by the following states, in the order named: Illinois, Iowa, Texas, Michigan, Ohio, Minnesota, and New York. At the close of the decade, as at the close of the preceding one, the largest amount of mileage was in Illinois, Pennsylvania, New York, and Ohio, in this order.

The decade of the seventies was characterized by a number of notable events, but they will receive only brief consideration at this point, because most of them are described at considerable length later. In marked contrast to the preceding decade, in which competition was relied upon to ensure reasonable rates, the legislative power was invoked, particularly in the Middle West, to bring the railways under public control. The movement for railroad regulation was called the Granger movement, because the moving spirit in it was the National Grange, an organization of farmers. The grievances of the farmers were numerous, and for the most part justified. Railroad freight rates were high, but of much greater importance, they were grossly discriminatory. The railroads followed the practice of charging some shippers less than others for the same service, and some towns less than others for a longer haul. This resort to personal and local discrimination greatly embittered the farmers, especially in view of the liberal aid that they had bestowed upon the railroads. The attitude of the railway officials, however, was that the railway business was a private one to be managed as they saw fit; and they had seen fit to treat the shipping and traveling public with gross discourtesy, at the same time that many of them committed grave frauds, by construction companies and other devices, upon the stockholders. The philosophy behind the Granger movement was that the railroads were subject to regulation by public au-

thority; and beginning about 1870 a number of western states passed laws for the purpose of exercising their rights. These laws gave rise to the famous Granger cases of 1876, in which the Supreme Court fully upheld the right of the states (and of the federal government) to regulate railways. Though most of the Granger laws were later repealed, and though the federal government refrained from railway regulation until 1887, a great gain was made in securing judicial affirmance of the right of the people to control the railways they had created.

Despite the lesser degree of reliance upon competition, it was nevertheless exceedingly active throughout the seventies, and with numerous important consequences. Competition was so severe as to lead to numerous rate wars, during the course of which rates fell to unduly low levels. As a result, especially after the panic of 1873, numerous railroads failed. To ward off a competition that threatened to become ruinous, a number of rate and pooling agreements were entered into after 1870. These arrangements were bitterly resented by the people, who were still relying in many sections on competition as a safeguard against extortionate charges. These restraints on the free play of competition were not sufficient, however, to prevent a general reduction in the level of freight rates, as the result of which this particular grievance of the shippers lost its force. Unfortunately, however, the reduction, though general, was far from uniform. It was greatest to those persons who controlled a large volume of traffic, and to those towns that were fortunate enough to be served by two or more railways. The reductions were naturally great also wherever the competition of water routes was encountered; and many of the water lines succumbed on account of the bitter and unequal competition that prevailed. The Great Lakes continued to hold their own (and still do) in the carriage of certain bulky articles, such as iron ore, coal, and lumber; and the Erie Canal put up a brave, but losing, fight, until finally in 1882 the state of New York abolished tolls for the use of the canal, and thereby prolonged its competitive power, though at the expense of the taxpayers. The reduction in railroad rates also made necessary more economical operation, if failure was to be avoided. Fortunately the adoption of more economical methods was made possible by the increased volume of traffic, resulting both from the expansion of trade and the lower level of railway rates. During this period steel rails were

gradually being substituted for iron, and larger locomotives and cars were being built. Thereby the cost of operation was reduced, and with the return of prosperity once more in 1879 many railroads were able to make adequate profits, even at the low rates prevailing.

Between 1880 and 1890 [1] the railway mileage increased from 93,262 to 163,597. The increase was over 70,000 miles,—an amount greater than the total miles of line in operation in 1873. A new record was made in 1881, in 1882, and again in 1887. In 1887 there were built 12,876 miles, a performance that has not been equalled since; indeed in no year after 1887 did new construction equal 7,000 miles. During the decade there were built as many miles of railroad as had been built in the three principal countries of Europe throughout the previous fifty years, a truly unparalleled achievement. The increase was greatest in Kansas and Texas, in each of which over five thousand miles were added, but it was notable also in Nebraska and Michigan. At the close of the decade the order of the leading states as regards the length of the railway net was Illinois, Kansas, Texas, Pennsylvania, Iowa, Ohio, and New York.

Noteworthy among the developments of the decade was the opening up of a number of transcontinental routes. Though the first transcontinental line was completed in 1869, no others were available until the eighties, when they came thick and fast. In 1881 the Atchison, Topeka and Santa Fe, with its eastern terminus on the Missouri River (at both Atchison and Kansas City), reached Deming, New Mexico, where it connected with the Southern Pacific, then being extended from San Francisco through southern California toward New Orleans. The junction of these two roads at Deming opened a second transcontinental line. The following year (1882) the southern transcontinental route provided for by the Congressional land grant act of 1871 was brought to completion. The Southern Pacific coming from the west effected a junction near El Paso, Texas, with the Texas and Pacific, and thereby a transcontinental line from New Orleans to San Francisco was provided. In 1883 two transcontinental routes were opened. One was the Southern Pacific by its own line from San Francisco to New Orleans, and the other was the Northern Pacific from St. Paul, Minnesota, to Portland, Oregon.

[1] The figures prior to 1890 are for the calendar year; those for 1890 are for the fiscal year ending June 30.

From Johnson and Van Metre, *Principles of Railroad Transportation* [D. Appleton & Co.].

MAP OF THE UNITED STATES SHOWING RAILROADS IN 1890

In 1884 the Union Pacific secured a second connection to the Pacific Coast, through the Oregon Short Line and the Oregon Railway and Navigation Company, extending from a point on the Union Pacific east of Ogden to Portland. In 1885 the Canadian Pacific (in Canada) completed a true transcontinental line from Montreal, in Quebec, to Vancouver, in British Columbia; [1] and in 1888 the Atchison, Topeka and Santa Fe got into Chicago, thereby opening up its own line from Chicago to Los Angeles, as well as to Galveston. This rapid extension of railway facilities in transcontinental territory was largely due to the development of the Pacific Coast, but it was encouraged by the successful competition of the railroads with the water route around the southern extremity of South America, as well as with the combined water-and-rail route via the Isthmus of Panama.

During the eighties the national government first undertook the regulation of railroads in a comprehensive way. The serious discriminations between persons and between localities that had aroused so much bitterness in the seventies had not disappeared with the passage of time; indeed they had become worse, if anything. The general level of rates had continued to fall throughout the eighties, though not at so rapid a pace as before, but the reductions were disproportionately great to favored shippers and to competitive centers. Though discriminations of one kind or another were the principal cause of complaint, there were many others. Among them may be mentioned railroad pools, stock watering, speculation, manipulation, fraud, political corruption, and the arrogance of the railroad officials. The remedy for these abuses was thought, during the seventies, to lie in positive action by the states, but meanwhile the areas of commercial competition had been expanding, and the resulting increase in traffic among the states called for federal action. Then, in 1886, came the decision of the Supreme Court in the Wabash case,[2] which held that power to regulate commerce among the states (interstate commerce) was vested exclusively in the federal government. This decision made federal legislation imperative, and led to the

[1] The Canadian Pacific Railway is perhaps the most far-reaching private transportation organization in the world. It operates steamships from Great Britain to Canada, a railroad across Canada, and steamships from Canada to the Orient. In addition, it has its own telegraph, express, and sleeping car service; operates hotels; and owns millions of acres of land.

[2] Cf. p. 215.

passage of the Act to Regulate Commerce in 1887. This act was supplemented by a number of state statutes, some passed before 1887 and some after.

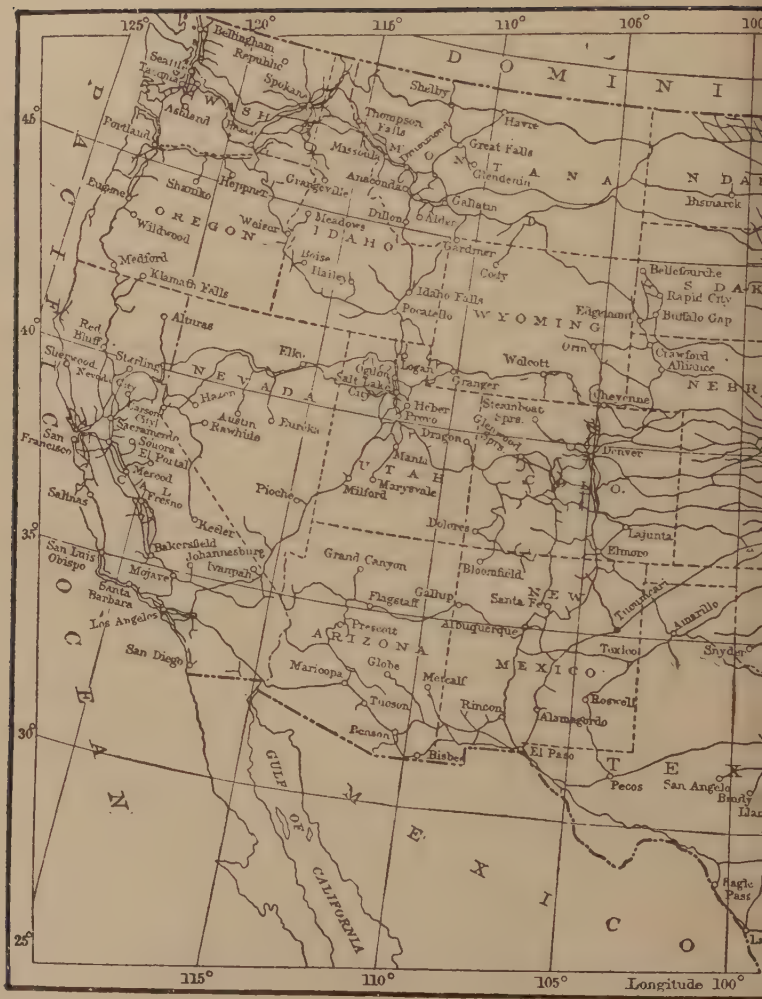
During the decade of the eighties the railroads continued to make great improvements in operation. Before its close the standard gauge of 4 feet 8½ inches had been adopted by practically every railroad in the country, except where a narrow gauge was required on account of the sparsity of traffic. The air brake, which had already been successfully applied to passenger trains, was improved sufficiently to permit of its use on freight trains. The automatic coupler came increasingly into use. The substitution of steel rails for iron went on rapidly. Whereas in 1880 only 29.1 per cent of the rails were of steel, by 1885 the percentage had increased to 61.0, and by 1890 to 80.4. Steel rails are much more durable than iron rails; they permit higher speeds; and they sustain heavier loads. Their use made possible the employment of bigger locomotives and cars, and thus the large trainloads that are characteristic of this country of magnificent distances. The economies thus realized enabled the railroads progressively to reduce their rates, and still make a profit for their owners.

Between 1890 and 1900 the mileage increased from 163,597 to 193,346.[1] The increase was less than during the decade from 1870 to 1880, and not even half that of the decade from 1880 to 1890. The relatively slow growth was principally due to the fact that the main lines of railroad had been provided by the rapid development of the preceding twenty years, and in lesser measure to the existence of a period of industrial depression following the panic of 1893. Only one new transcontinental line was built. This was the Great Northern, completed from St. Paul to Seattle in 1893. In addition, the Atchison, Topeka and Santa Fe, which had reached Los Angeles in the eighties, extended its line, by a process of combination and construction, from Mojave (north of Los Angeles) up the San Joaquin Valley to San Francisco.[2]

Prominent events during the last decade of the nineteenth century were the continued decline in freight rates; numerous railroad failures after the panic of 1893; the enactment of safety appliance legislation (in 1893); a far-reaching movement toward

[1] These figures are for the fiscal year ending June 30.

[2] Between Mojave and Bakersfield (68 miles) the Atchison depended on the tracks of the Southern Pacific, with which it had a trackage agreement.



MAP OF THE RAILROA

From Johnson and Van Metre, *Principles of Railroad Transportation* [D. Appleton & Co.].

NITED STATES IN 1921

railroad combination; and a series of very important court decisions. These decisions dealt with many matters, and most of them will receive treatment in due course. At this point mention will be made only of those dealing with traffic associations and with the regulation of rates by the federal government. In the traffic association cases (1897 and 1898) the Supreme Court held that agreements among railroads to fix or maintain rates were forbidden by the Sherman Anti-trust Act. The result of these decisions was the creation of huge railroad combinations, whereby combination was substituted for agreement. Many of these combinations, in turn, were subsequently declared illegal. In the cases dealing with federal regulation of rates (1897) the Supreme Court held that the Interstate Commerce Commission, which had been established by the Act to Regulate Commerce of 1887 to enforce the provisions of the act, had not been empowered by that act to prescribe maximum rates in lieu of those found by it to be unreasonable. The result of these decisions was to deprive the Interstate Commerce Commission of power at the very moment when the creation of enormous railroad combinations made its exercise particularly necessary. The remedy, of course, was for Congress to give to the Commission the authority it lacked, but this grant was not to be made until 1906.

At the present time (1922) there are 250,480 miles of line in the country. From 1900 to the outbreak of war in Europe in 1914 the annual increase was about 4½ thousand miles. Among the important lines constructed or extended during this period were the San Pedro, Los Angeles and Salt Lake, completed from the Pacific Ocean near Los Angeles to Salt Lake City in 1905; the Chicago, Milwaukee and St. Paul, from Chicago to Seattle, completed in 1909; and the Western Pacific, from Salt Lake City to San Francisco, also completed in 1909. At the outbreak of the war (as now) the greatest amount of mileage was in Texas, which (with Oklahoma) enjoyed a very rapid gain after 1900. Illinois and Pennsylvania occupied second and third place. Upon the outbreak of war new construction rapidly declined; indeed during the years from 1916 to 1922 more mileage was abandoned than was constructed. This development was not at all because the railway net had become fully adequate, but because of the existence of war and postwar conditions, which were very abnormal and very trying. The most significant event since the

war, from the standpoint of new construction, is the completion in 1923 of the Alaska Railroad, about 500 miles in length. This road was built by the federal government under the terms of an act passed in March, 1914; and is now operated by the government.

The history of railroads since 1900 is replete with noteworthy developments. In this period the federal government fully asserted its authority over railways by a series of enactments, the most important of which were passed in 1903, 1906, 1910, 1912, 1913, 1914, 1916, 1917, 1918, and 1920. At the very close of 1917 it assumed the operation of the railroads, and continued to operate them until March 1, 1920. They were then returned to their owners in accordance with the terms of the Esch-Cummins Act (of February 28, 1920), which is now the principal law regulating railways. Throughout this period there were rendered numerous court decisions, interpreting the laws that had been enacted to deal with railroads. By most of these decisions the power of the federal government was fully sustained. During this period, whether because of the existence of abnormal conditions, or, as some allege, because of the policy of railway regulation, the problem of adequate service came to the fore. It came to occupy a place in the public mind fully as prominent perhaps as the reasonableness of railway charges, though interest in the latter showed no signs of abatement. During this period, also, railroad labor controversies became especially acute. Strikes were frequently threatened, and sometimes put into effect. Legislation to deal with this situation was enacted, and the necessity of improved labor relationships clearly established. Yet despite all this legislation of one kind or another the railroad problem was still unsolved. And so it remains to-day, though much has been learned as the result of the experience of the past. To set forth this experience will be our task in the chapters that follow.

REFERENCES

Adams, C. F., Jr.: *Railroads: Their Origin and Problems*, pp. 1–36 (1888).
Carter, C. F.: *When Railroads were New*, ch. 7 (1909).
Cleveland, F. A. and Powell, F. W.: *Railroad Promotion and Capitalization in the United States*, chs. 3–4 (1909).
Hadley, A. T.: *Railroad Transportation*, ch. 2 (1885).
Johnson, E. R. and Van Metre, T. W.: *Principles of Railroad Transportation*, chs. 2–4, 24 (1921).
Ripley, W. Z.: *Railroads: Rates and Regulation*, ch. 1 (1912); *Railroads: Finance and Organization*, ch. 1 (1915).

PART II

RATES AND RATE MAKING

CHAPTER IV

THE THEORY OF RAILROAD RATES

To understand railroad problems and the course of legislation dealing with these problems it is essential to understand the theory of railroad rates—to comprehend the principles upon which railroad rates have been made.

The theory of railroad rates may best be understood perhaps by elucidating two fundamental economic principles—or laws—that apply to the railroad industry. The first is the law of increasing returns; the second is the law of joint cost. Both of these principles have profoundly affected railroad history and policy; and both of them will therefore be discussed at some length.

Railroad Industry one of Increasing Returns

The railroad is an industry of increasing returns. Economists define an industry of increasing returns as one in which an increase in the output (traffic in the case of a railroad) does not involve a corresponding increase in the cost of production (or transportation).[1] Since the expenses do not increase as rapidly as the volume of business, the returns or profits are greater. To the statement that the returns increase there are, however, two qualifications. First, it may be that the only way in which a railroad can secure a greater volume of traffic is by lowering its rates; and obviously this will result in larger profits only if the reduction in unit costs due to the increased scale of operations more than compensates for the reduction in receipts due to the lower rates. If an increase in the volume of business cuts down the cost per ton of transporting all the traffic, but the reduced rates need be applied only to the additional business, the possibility of realizing larger profits is naturally greater than it is where a differentiation of charges as between the various items of traffic is not practicable. Second, an increased volume of business may necessitate an enlargement of the plant. So long as the present plant can handle efficiently

[1] Cf. Taussig, F. W., *Principles of Economics* (1921), I, ch. 14; II, pp. 393–394.

the additional traffic, reduced costs per ton may be anticipated; and increasing returns are realized. But the enlargement of the plant introduces a new consideration. In the case of a railway the enlargement frequently takes the form of double-tracking. For a time the two tracks may not be fully utilized; the increase in the traffic is hardly likely to be great enough to cover the marked addition to the costs consequent upon the building of an additional track. Temporarily, therefore, the profits are reduced, rather than increased. Yet as the traffic continues to grow, and the plant comes to be more fully utilized, the returns again increase. If a railroad with double tracks can handle twice the traffic at a less cost per unit than it could handle half the traffic with one track—and there is little doubt that it can, because of the avoidance of the delays inherent in one track operation—it gains through a growth of its traffic that permits it to double-track its line.

But does the law of increasing returns apply indefinitely? Are four tracks more economical than two, and six tracks more economical than four? Or after a time is the point reached at which the organization becomes too large for efficient operation, and does the law of increasing returns cease to function? These are large questions upon which more will be said later, but it is universally agreed that up to a certain point at least an increased amount of traffic does not occasion corresponding additions to expenses, and therefore that up to that point the law of increasing returns operates.

What is the explanation of this universal agreement? What are the grounds for saying that the railroad is an industry of increasing returns? The answer is to be found in an examination of the nature of railway expenditures.

For many years the railroads have been compelled to keep their accounts in accordance with the forms prescribed by the Interstate Commerce Commission, the government agency that regulates the railroads. From their records the railroads prepare elaborate statistical tables, which they present to their stockholders in the form of annual reports, and which they submit (along with other data) to the Interstate Commerce Commission as required by law and by the orders of the Commission. Much of the material thus accumulated by the Commission is combined into a volume entitled "Statistics of Railways in the United

States." This volume is an exceedingly valuable document, since it presents the income, expenditures, etc., of the individual roads in such a way that their operations may conveniently and profitably be compared—a task that is facilitated by the requirement that the carriers keep their accounts in a substantially uniform manner. From the data in the annual reports of the railways and in the Statistics of Railways, a detailed analysis of railway expenditures can be made.

The principal classes of railway expenditures are (1) fixed charges; and (2) operating expenses. The former includes such items as interest on bonds, rentals of leased lines, taxes, and payments into sinking funds to take care of maturing obligations. These items are called fixed charges because they remain approximately the same, irrespective of changes in the volume of traffic. To be sure, if an additional issue of bonds becomes necessary to obtain the funds required to handle more traffic, the fixed charges (in so far as they consist of interest payments) will increase; but the bonds having once been issued, the interest payments are established at the higher figure, and do not thereafter fluctuate with the volume of traffic. Again, there are bonds—income bonds—the interest on which need be paid only if earned, and the interest on these bonds can not therefore be regarded as fixed in the same sense as interest on an ordinary bond. Yet the number of income bonds outstanding is small; and for a road that earns enough to pay the interest on them the expense is a fixed one.

The second class of expenditures—operating expenses—includes, as the name indicates, those incurred in the operation of the railroad. For many years (1887–1907) the operating expenses were divided into four major groups—maintenance of way and structures, maintenance of equipment, conducting transportation, and general expenses; and each of these groups, in turn, was composed of a number of subgroups. Maintenance of way and structures expenses, as the name implies, included those incurred in keeping the roadway and structures (stations and bridges, for example) in the proper condition to move trains. Maintenance of equipment expenses included those incurred in the upkeep of the equipment, notably locomotives, freight cars, and passenger cars. The expenses for conducting transportation embraced those connected with the actual movement of the traffic. The general expenses included those items that did not readily fall

in the other three groups; for example, the salaries and expenses of the officers and clerks who dealt with the property as a whole, and the expenses of the pension, relief, legal, and insurance departments, when these expenses could not appropriately be charged to maintenance or operation.

Such were the four major groups into which the railroads were required to classify their expenditures down to 1907. In that year the Commission ordered that thereafter conducting transportation should be divided into separate groups: one to be known as transportation, and to include the expenses of movement; and the other to be known as traffic, and to include the expenses of soliciting the traffic and of making the rates to be charged for its carriage. Speaking in the language applicable to a manufacturing establishment, the transportation expenses embraced those associated with production, and the traffic expenses those connected with the sale of the service (corresponding to the sales department). This separation of expenses was clearly in harmony with correct accounting principles, since the cost of getting the business is quite distinct from the cost of handling it. Subsequently (in 1914) the Commission increased the number of major groups to eight. A description of these changes is not necessary, however, in order to explain the theory of railroad rates. For this purpose, following the practice of earlier writers, it will suffice to utilize the classification employed to 1907.[1]

A study of the railway expenses by groups and subgroups brings out the significant fact—significant, that is, for the establishment of the proposition that the railway industry is one of increasing returns—that the greater part of these expenses are constant, that is, independent of the volume of traffic (at least up to the point of the full utilization of the plant). Distinctly less than half of the expenses are variable, that is, vary in proportion to the volume of traffic. Thus, all (or practically all) the fixed charges, as the name indicates, are constant expenses. This is important, since the fixed charges comprise a large part of the total expenditures of the railways. The percentage varies somewhat from year to year and from road to road, but in 1906 (the

[1] That it is satisfactory, from the standpoint of the elucidation of principles, to employ the earlier classification, is shown by the fact that the four major groups into which operating expenses were classified prior to 1906 embraced in 1921 over 97 per cent of the aggregate operating expenses.

last year in which the old classification was in force) it amounted to 27.74 per cent of the total expenditure of all the railroads considered as a system.[1] The fixed charges being constant, an increase in traffic, providing it does not necessitate new capital outlays, has no effect whatever upon the cost of transportation in so far as the cost is composed of interest on bonds, etc. The result is that the railway officials feel a distinct pressure to secure more traffic, even at some concessions in rates.

Not only are the fixed charges constant, that is, independent of the volume of traffic, but many of the operating expenses also are constant. We may begin the analysis with the expenditures for maintenance of way and structures, which in 1906 constituted about 15 per cent of the total expenses, and about 20 per cent of the operating expenses.

The expenditures for maintenance of way and structures were divided into ten items, according to the tables in the Statistics of Railways for 1906.[2] Of these items, some vary with the traffic, though perhaps not in direct proportion thereto, and some bear little or no relation to the traffic. Thus, the expenditure for rail maintenance is closely related to the volume of traffic. A railroad can handle more traffic only by increasing the number of trains, or their size, or the speed at which they run; yet in each case the result is to wear out the rails more rapidly. On the other hand, the outlay for tie maintenance bears practically no relation to the volume of business. Ties rot rather than wear out, and when they become rotten they must be replaced. Moreover, it costs the railroads a great deal more in the aggregate for tie maintenance than it does for rail maintenance. There is practically no relation between the volume of traffic and the repairs of station buildings and tunnels; and none whatever between the volume of traffic and the maintenance of fences, the cleaning of ditches, and the removal of snow, ice, and weeds. Heavier traffic increases somewhat the wear and tear on bridges, culverts, and ballast, yet probably the weather exercises a greater deteriorating influence than the traffic. Again, the cost of superintendence does not increase as rapidly as the traffic. It is clear, therefore, that the cost of maintaining the roadway and structures does not increase in the same proportion as the traffic, and conversely

[1] *Statistics of Railways in the United States*, 1906, p. 92.
[2] Pp. 95–96.

does not decline in proportion as the traffic declines. Just what percentage of the cost is constant, is difficult to say; but from the standpoint of the theory of railroad rates it is not necessary to determine the exact percentage. Clearly the percentage is large, and we may safely accept the conclusion that two-thirds of the expenses for maintenance of way and structures are constant, and only one-third variable.

The expenditures for maintenance of equipment constituted in 1906 about 15 per cent of the total expenses, and about 21 per cent of the operating expenses. They were divided into nine items, but the principal elements of expense were repairs and renewals of locomotives and cars. These outlays are more closely connected with the volume of business than are the maintenance of way expenses. The rolling stock wears out largely because of use, and the cost of maintenance therefore increases with the use. The danger that improved types of locomotives and cars will render the existing types uneconomical, forces upon railway managers the necessity of securing as much mileage out of their equipment as possible, and this increases the wear and tear. On the other hand, there seems to be little relation between the depreciation of a locomotive and the size of the train, and between the depreciation of a car and the size of the load, whether freight or passengers. It is thus possible to increase the volume of traffic without a corresponding increase in the outlays for maintenance. It is agreed by most authorities that about half of the expenses for maintenance of equipment may be regarded as constant, it being assumed, of course, that the existing equipment will suffice, with intensive use, to handle the additional traffic.

The expenditures for conducting transportation constituted about 39 per cent of the total expenditures, and about 55 per cent of the operating expenses. They were divided into twenty-seven items, but they fall readily into two groups: station expenses and movement expenses. The former include the wages of station employees, station supplies and expenses, outlays for switching, signaling, etc. These expenses are constant for the most part; the force of station employees can not well be reduced as the traffic declines, nor need it be much enlarged as the traffic increases. The movement expenses are made up principally of wages and fuel. The principal items in the wage bill are the wages paid to engineers, firemen, conductors, and trainmen. These outlays

are variable to a large degree, since their amount naturally varies with the work to be performed. Yet in considerable measure also they are unrelated to the volume of traffic. The wages of engineers, firemen, etc., are largely independent of the length or size of the train; the wage cost for a full train is not much greater than for an empty one. In the early days of railroading, to be sure, an increase in the number of cars in a train necessitated an increase in the number of brakemen, but with the introduction of the modern air brake this has ceased to be true. The air brake has thus contributed markedly to the increase in the size of the trainload; for the larger the trainload, the less are the wages of the train crew per ton hauled. The fuel bill is also dependent on the volume of traffic, for the greater the load, the greater the amount of fuel required to haul it. None the less the outlay for fuel by no means increases in proportion to the increase of traffic. At least 5 per cent of the fuel consumed is required to get up steam. To haul a train of 60 cars does not require twice as much coal as to haul one of 30 cars; and to haul a train loaded does not require a great deal more coal than to haul it empty. In fact, one-fourth or more of the fuel costs is independent of the size of the trainload. For conducting transportation as a whole there is fairly general agreement that approximately one-half of the expenses are constant and one-half variable.

The last group of expenditures is known as general expense. This constituted about 3 per cent of the total expenses, and about 4 per cent of the operating expenses. It embraces those outlays that are incurred on behalf of the property as a whole, and that can not well be assigned to the groups already described. The

	PER CENT OF TOTAL EXPENSES			PER CENT OF OPERATING EXPENSES		
	Constant	*Variable*	*Total*	*Constant*	*Variable*	*Total*
Fixed charges	28	..	28	..	..	..
Maintenance of way and structures	10	5	15	13.4	6.6	20
Maintenance of equipment	7.5	7.5	15	10.5	10.5	21
Conducting transportation	19.5	19.5	39	27.5	27.5	55
General	3	..	3	4	..	4
Total	68	32	100	55.4	44.6	100

general expenses are practically constant. They represent the cost of maintaining a headquarters organization; and there is naturally very little connection between the expenditures for this purpose and the volume of business.

The foregoing estimates may be presented in tabular form, as shown on page 77.

An examination of this table makes it clear that approximately two-thirds of the total expenses of a railway, and approximately one-half of the operating expenses are independent of the volume of traffic. We say approximately because the percentages must be regarded as estimates merely. However, as estimates they are sufficiently accurate to establish the proposition that an increase in a railroad's traffic (assuming its plant is not fully utilized) does not result in a corresponding increase in its expenses. *The railroad therefore is an industry of increasing returns.*

The statement that the railroad is an industry of increasing returns may be given concreteness by an illustration.[1] Assume that a given railroad has a capital stock of $100,000,000, and an income of $100,000,000; and that its fixed charges amount to $28,000,000, and its operating expenses to $66,000,000.

Income		$100,000,000
Expense		94,000,000
Fixed charges	$28,000,000	
Operating expenses	66,000,000	
Total expense	$94,000,000	
Profit (available for dividends)		$6,000,000

The railroad after meeting all its expenses has left the sum of $6,000,000, which equals 6 per cent on its capital stock.

Assume now a 10 per cent increase in traffic. The income, on the assumption that the rate is the same on the additional traffic as on the old, will be $110,000,000. The fixed charges will be the same as before, it being assumed that the existing plant is adequate to handle the additional business. The operating expenses are not constant, as are the fixed charges; yet neither do they increase in the same proportion as the traffic. Instead of increasing by 10 per cent, therefore, they increase by only 50 per cent of 10 per cent. The account therefore stands as follows:

[1] Cf. Ripley, W. Z., *Railroads: Rates and Regulation*, pp. 72–75.

Income		$110,000,000
Expense		97,300,000
Fixed charges	$28,000,000	
Operating expenses	69,300,000	
$66,000,000 + (50% of 10% of $66,000,000)		
Total expense	$97,300,000	
Profits (available for dividends)		$12,700,000

The railroad, after meeting all its expenses, has left the sum of $12,700,000, which is equal to 12.7 per cent on its capital stock. An increase of 10 per cent in the traffic has thus increased the profits by over 100 per cent. It is hardly necessary to say that this is by no means an unfailing rule, but it is clear that the effect of a growth in traffic is to enlarge the railroad's profits, for the reason that the expenses of operation do not increase as rapidly as the traffic. Conversely, a decline in traffic works injury to the railroad, because its expenses do not decline as rapidly as the traffic.

The assumption has been made thus far that an increase in traffic could be handled with the existing equipment. This assumption may be briefly examined.

When a railroad is first built—and particularly when built in such fashion as the pioneer railways of this country were built—there can be no doubt that its plant is far from being fully utilized. The number of trains per day is small, yet the plant steadily wears out as a result of the disintegrating forces of nature. In these circumstances the best hope of profits for our pioneer railroads lay in the construction of a cheap line, in order to keep down the constant costs per ton moved. As the country became more fully settled and the traffic expanded, the railroads put on more trains. This growth in their business called for more locomotives and cars, and thus increased their expenses. Yet for a considerable period the track sufficed to handle the new business as well as the old, and consequently the growth in expense was not proportionate to the growth in traffic. Increasing returns were therefore present. In the course of time, however, as the traffic increased in volume and the locomotives and trains increased in size, the roadbed and rails and bridges had to be strengthened. When this stage was reached many of the constant expenses became

variable, yet the railroad because of the larger scale on which it operated, could afford to incur the added expense. The roadway and structures expense per mile was increased, but so was the traffic; and the expense per ton was no greater perhaps than it had been before the rails were replaced. However, this may not have been true immediately, in which case the railroad operated for a time at diminishing (rather than increasing) returns. Yet eventually (and probably shortly) it proved true of practically every well-managed, well-located road. As more time passed and the country developed still further, the stage was often reached when a single track, no matter how well built, did not suffice; and it became necessary to double-track all or a part of the line, and to enlarge the stations and terminals. The additional traffic that made this large capital outlay necessary was very expensive to handle, because it was chargeable not only with its own movement expenses, but also with the notable addition to the costs consequent upon the expansion of the plant.

It may be asked, if this is so, why the railroads made these unremunerative outlays. There are several reasons. In the first place, the railroad is a common carrier, and as such is charged with the duty of rendering adequate and satisfactory service. It is expected to handle the business that is offered to it, and to make suitable provision to that end. In the second place, there was undoubtedly reason to believe that the traffic would continue to expand, and though for a time the railroad might be burdened with much unused plant, eventually the traffic would be large enough to justify the added capital outlay. In the third place, double-tracking permitted the more economical handling of the business. If the traffic was so great that a single track hardly sufficed, there was congestion, which meant uneconomical operation. A second track, therefore, reduced the cost of handling the traffic already enjoyed, which was a partial offset to the increased outlays resulting from a second track. Moreover, when the traffic had increased so that both tracks were fully utilized the railroad found that a double-track road could handle more than twice the traffic of a single-track road similarly placed. This is because a larger plant is more efficient than a smaller one, a case also of increasing returns.

From these considerations it is evident that increasing returns may be realized in two separate ways: first, through the more com-

plete utilization of an existing plant; and, second, through the replacement of a less efficient plant (a single-track road) with a more efficient one (a double-track road). The more complete utilization of an existing plant brings increasing returns, because additional traffic does not cause a proportionate addition to the cost, until the increase in traffic is so great as to demand the enlargement of the plant. As soon as the increase in traffic does demand an enlargement of the plant, the railroad for a time illustrates diminishing returns, because it is not able at once to utilize fully the enlarged plant. Yet the enlarged plant having once been provided, further growth in traffic again brings increasing returns. Increasing returns are realized, secondly, through the substitution of a more efficient plant for a less efficient one. This differs from the first case in that a double-track road (fully utilized) is more efficient than a single-track road (fully utilized). The explanation is not fuller utilization, as in the first case, but the superior economy of a large plant, what we call the economy of large-scale production.

At this point we may take up the question referred to earlier: are the economies of large-scale transportation realizable without limit? Is a four-track road more efficient than a double-track one? Is a six-track road more efficient than a four-track one? In the present state of our knowledge it is impossible to say at what point, if any, it ceases to be profitable to enlarge the plant. In some cases, because of the narrowness of the valleys through which the road runs, the point at which expansion ceases to be feasible may be reached at an early date; in other cases the difficulty of securing terminal facilities on reasonable terms may impose a definite limit to expansion. It is worthy of note that a number of students of the railroad problem are of the opinion that the railroads in the more densely settled states of the East are rapidly approaching, if they have not already reached, the stage of practical saturation; and that these roads can move additional traffic only at increased cost, that is, under conditions of diminishing returns. If this be true, it is much to be regretted, since it will mean that as the country grows and trade expands the cost of transportation will move upward, and freight rates will perforce follow the movement of costs. In the opinion of these students, in the South and West we are far removed from this threatening condition; but it is only a matter of time before it will be experienced there also.

Significant though this point be for the future, it is not vital as regards the viewpoint from which we have approached the theory of railroad rates. Our present interest lies primarily in the bearing of this theory upon the railroad problems of the past. Our purpose is to point out the practical applications of this theory; to show how it has fundamentally affected railroad policy; and how it has influenced the course of railway legislation. These matters we shall discuss in due time; but first we must complete our study of the theory of railroad rates. We turn, therefore, to the explanation of the second law, the law of joint cost and its relation to railroads.

Railroad Industry Subject to the Law of Joint Cost

We may explain the law of joint cost and bring out its significance by the case of cotton fiber and cotton seed. At one time the cotton plant was grown solely for the fiber; the seed was regarded as worthless, and was thrown away. Under these conditions there was only one marketable product, and its price was determined by the equilibrium of the supply and demand, to state the matter in its simplest terms. While the price of cotton fiber at any one time might be above or below the cost of producing it (including in cost a normal profit), its normal or long-run price tended to equal the cost of producing the most expensive portion of the supply that was required to satisfy the demand. So long as only cotton fiber was offered for sale, its price adjusted itself to the cost.

In time, however, uses for the seed were found. The discovery was made that the seed could be compressed, and oil (cotton seed oil) extracted from it; and that the residue (oil-cake) was a good food for cattle. These discoveries gave value to the seed; it was now possible to dispose of it for a price. Yet at what price? At the cost of production? Yet what is the cost of production? The point to note is that the fiber and the seed are jointly produced, and therefore have joint costs of production. The aggregate costs are incurred on account of both the fiber and the seed, and it is not possible to say what it costs to produce either one of them. What then does determine the price of the fiber and of the seed? We say fiber as well as seed, since the price of fiber is no longer determined by its cost of production, for the simple reason that its cost is no longer ascertainable. It might be thought that

the cost of producing fiber is the same as before, and that the price at which the seed can be sold represents "velvet." Yet this very statement of the case carries its own disproof. If formerly the price of cotton fiber was just high enough to remunerate the producers adequately, the price becomes unusually profitable if "velvet" is added. The profits being unusually large, the output of fiber will be increased, and its price will fall; and the lower price of fiber will not be high enough to cover the aggregate costs of production. However, it need not be this high, because a part of the costs will be met by the seed, which now commands a price.

To recur to the question, what does determine the price of the fiber and the seed? The orthodox doctrine is that the prices of articles produced at joint cost tend to equal their combined costs of production, including in costs, of course, a normal profit; and that the apportionment of the total price between the joint products is determined by the relative intensity of the demand. The price of fiber and seed, then, will equal their combined costs of production. Postponing for a moment consideration of the apportionment of the price between the two, it should be noted that the price of fiber will be lower after the new uses of seed have been discovered than it was before. So long as the seed was worthless the price of fiber had to be high enough to cover all the costs of production. The seed, being worthless, could make no contribution to these costs; and they had to be met, otherwise cotton planters would reduce their output until the price of fiber did meet their costs. But as soon as the seed commands a price, and can therefore defray some of the costs, the burden on the fiber is reduced, and its price accordingly falls. How low will it fall? It depends on the relative intensity of the demand for the two products. If the demand for cotton fiber is much greater than the demand for cotton seed—as it certainly is—the price of fiber will be higher per pound than the price of seed, and the fiber will meet more than its proportionate share of the joint expenses. How much higher the price of fiber will be will depend, to repeat, on the relative intensity of the demand for the two products. Equilibrium will be reached when the demand for both fiber and seed equals their supply.

Obviously there can be no complaint on the part of the purchasers of cotton fiber that they are discriminated against because

they have to pay more per pound than do the purchasers of seed. The demand is greater for fiber than for seed; and the very act of producing enough fiber to satisfy this demand inevitably results in the production of the proportionate amount of seed—about two pounds of seed for every pound of fiber. The seed must be sold for what it will bring, and it will not bring as much as fiber because the demand for it is not as great. The consumers of fiber therefore get the product at a lower price than would be possible if the seed were not disposed of for whatever price—no matter how low—it will bring.

We have spoken thus far as if all of the expenses of producing fiber and seed were joint. Seldom, however, is the matter as simple as this; usually, though there may be a considerable element of cost common to the joint products, each of them has certain separate costs of its own. The meat-packing industry well illustrates this case. The typical large-scale packing house turns out a great variety of products, such as meat, hides, fertilizer, lard, oleomargarine, soap, and glue. In considerable measure the cost of producing these products is joint; it consists of the purchase price of the live stock, the interest on the plant, and many other items. In part, however, the cost is special to the individual articles, that is, would not be incurred if the particular product were not obtained. The fertilizer, for example, is a combination of materials (bones, blood, etc.) that might be thrown away. If fertilizer is made, as is customary, it gives rise to separate expenses of its own. Under these conditions what determines the price of meat, hides, and fertilizer? All that can be said is that in the long run each of the joint products will sell for a price that will at least cover the special expenses that are attributable to it (else it would not pay to prepare it for the market), and that all of them will in the aggregate sell for a price that will cover their combined costs. In what proportion each article will contribute toward the general (or joint) costs will depend on the intensity of the demand. Some of the articles are in insistent demand, will sell at a comparatively high price, and will make a large contribution to the joint costs; others will sell at a comparatively low price, and make only a slight contribution to the joint costs. Nevertheless it will pay to produce them so long as they make some contribution, no matter how small, to the joint costs.

We may now apply this reasoning to the railway. The railway performs a vast number of heterogeneous services. It transports thousands of articles of freight, some traveling long distances and some short distances, some moving in trainload lots and some in less than carload lots, some going at high speed and some at low speed, some moving in one direction and some in another, some possessing high value per pound and some low value. It transports passengers under widely varying conditions, in extra-fare trains, day coaches, excursion trains, immigrant trains, and the like. On what principle should the railroad fix the rates to be charged for these different services? Should it base its rates on the cost of performing each individual service, say transporting a carload of coal, or even a trainload of coal? However desirable this basis might be if it could be realized in practice, the fact is that it can not be realized. The railroad services are supplied at joint cost, and the cost of transporting a particular commodity is therefore not ascertainable. In order to determine the cost of carrying a carload of coal, it would be necessary to apportion to that carload its appropriate share of the total expenses. But the apportionment can be made only on an arbitrary basis. Take the fixed charges, constituting a large proportion of the railroad expenses. Manifestly these are expenses incurred on account of the traffic as a whole, and they can not be scientifically assigned to individual units of traffic. The fixed charges will not increase merely because of the carriage of an additional carload or trainload of coal, nor will they decrease because a trainload is taken off. Another important item is the expense of maintaining the roadway and structures. Yet this expense, except for some individual items like repairs of freight and passenger stations, can not be satisfactorily apportioned even to freight and passenger traffic—much less to a particular unit of freight or passenger traffic. The expenditures for maintenance of equipment and for conducting transportation may be allocated more scientifically than the other groups of expense, yet so long as large groups are not apportionable, it can not be claimed that the cost has been ascertained. Yet even if it were possible to apportion all of the expenses between the freight and passenger traffic the obstacle presented by joint cost would still be insuperable. Even if we knew what proportion of the total cost was incurred on behalf of the freight traffic—as distinct from the passenger—we could

not set off the expenses due to a particular shipment of freight, such as a carload or trainload of coal. The explanation is that many—if not most—of the expenses of transportation are joint; they are incurred on behalf of the service as a whole. Therefore the cost of service as a complete guide fails us.

The cost of service principle, though inadequate as a basis for determining rates, is nevertheless useful in two ways. First, it sets a limit below which the rates on individual shipments should not fall. The railways in their competition for business have charged very low rates on particular commodities or on particular shipments. The railroad officials justified these low rates on the ground that increased traffic did not involve corresponding increases in cost; and on the ground that most of the expenses were joint, and that the extra cost occasioned by the additional traffic was slight. The argument is sound, providing the rates were high enough to compensate the railroad for the extra cost of handling the added traffic, and to make some contribution to the fixed charges. It is clear that the transportation of an additional trainload, or even carload, of any commodity adds something to the expense. There is the fuel of the locomotive, the added wear and tear on the rails, cars, etc. And though it be clearly impossible to determine the cost of carrying a trainload of coal, it may be possible to determine approximately the *extra cost* occasioned by an additional trainload of coal. And below this figure the rate should not be allowed to fall, otherwise the railroad is losing money. The cost of service thus sets the lower limit to a rate; the rate on any article should not be less than the special expenses that result from the shipment of that article.

Second, the cost of service principle is useful in that it supplies the regulating authorities with the proper criterion of the reasonableness of the general level of railway charges. The railway is a natural monopoly, and as such is fully regulated by the government. In carrying out this regulation it is the duty of the government to establish a level of rates that will yield the railways reasonable earnings. And earnings are reasonable when they suffice to meet the costs of transportation, including in costs an adequate profit. To decide what rate of profit is adequate is by no means easy, but the guiding principle for the future should be to establish a rate that will suffice to attract to the railroad industry sufficient capital to supply the public with the kind of

service that it demands. Even after agreement has been reached on what an adequate rate of profit is, it is difficult to determine what level of rates will yield that percentage of profit; for the volume of traffic is constantly changing, and this introduces a disturbing influence. The problem is complicated also by the fact that a level of rates that enables one railroad to earn a fair return may be unreasonable for other railroads serving the same general territory. Nevertheless, the cost of service principle is a useful guide to the regulating agencies in their endeavors to control the general level of rates. In this connection it is suggestive that the Interstate Commerce Commission was less interested in cost studies down to 1910 than it has been since then. The explanation is that prior to 1910 the Commission exercised jurisdiction principally over particular rates, which are not closely related to costs; but since 1910, and especially since the passage of the Esch-Cummins Act in 1920, it has concerned itself more with the general level of rates, which, as we have shown, should bear a close relation to total costs.

The cost of service principle thus sets a limit below which individual rates should not fall, and it sets a limit above which the general level of charges should not rise. Yet assuming that the general level of rates is reasonable, it does not assist particularly in establishing the relativity of the rates on individual commodities. On what principle are these rates determined?

The answer to this question will readily occur to those who have comprehended the law of joint cost. When articles are produced or services are supplied under conditions of joint cost, the price or rate is determined, not by the cost of production or of transportation, but by the demand for the article or service. The freight rate on each commodity must be high enough, of course, to defray the extra (or special) costs incurred because of its carriage. But the proportion in which each will contribute to the joint (or general) costs depends on the intensity of the demand. To put it somewhat differently, some articles can not stand a high freight rate; unless they are charged low rates per unit of weight they will either not be offered for transportation at all, or they will be offered in much diminished volume. Such articles—coal, iron ore, sand, and bricks, for example—are not able to pay a high freight rate; the traffic, it is said, will not bear it. They are therefore charged low rates—in fact, rates so low that if they were applied

to all the traffic the railway would not pay. The rate on such articles must cover the so-called out-of-pocket expenses, that is, the extra cost fairly attributable to them. Yet it need not cover its proportionate share of the joint expenses, because the joint expenses are incurred on behalf of the traffic as a whole, and they will not decline if the bulky commodities are not carried. So long, therefore, as the bulky, less valuable commodities make any contribution to the joint costs there is a net gain. On the other hand, some articles can stand a high freight rate; they will be offered for transportation in substantially undiminished volume even though the rate be high per unit of weight. Such articles—jewelry, silk shirts, laces, and cigarettes, for example—are able to pay a high freight rate; the traffic is able to bear it. They are therefore charged high rates—rates so high that if they could be applied to all the traffic the profits would be enormous. These articles not only bear a proportionate share of the joint costs, but more than a proportionate share; they defray that portion of the joint costs which the less valuable articles do not because they can not.

The principle underlying this differentiation of charges as between commodities is that of charging what the traffic will bear (or, as it is sometimes called, the value of service principle). This principle has often been criticised on the ground that it leads to extortion, yet rightly understood the principle is sound, and in the public interest. The main reason why these opposing views are held is that the expression is used in two different senses. It is sometimes used to refer to the monopolistic practice of fixing the rate on each individual commodity at the point that yields the maximum net profit. The principle as thus stated is indefensible and opposed to the public interest, since it would lead to unreasonable profits for the railway. The term is also used in the joint cost sense, and this is the sense in which we have employed it. We have assumed that the receipts of the railway are equal to its aggregate costs, as nearly as it is possible through competition or regulation to bring this about; and that each service or item of traffic makes such contribution to the joint costs as it is able. As thus understood, the practice of charging what the traffic will bear is in the interest both of the public and the railways. It is in the interests of the public because it promotes the fullest utilization of the railway plant. If the less valuable articles were charged as high rates as the more valuable articles, their trans-

portation except in very small quantities would be unprofitable, and the plant would not render its maximum service. The only way in which the cheaper, bulkier commodities can be induced to move in large volume is by giving them low rates. These low rates are profitable to the railway, because so long as they exceed the extra cost of the additional traffic they make some contribution to the joint expenses, always assuming that the additional traffic does not congest the plant, and thus diminish the economy of operation.

To say that the principle of charging what the traffic will bear rightly interpreted is sound is not to say that in its application abuses have not arisen. The fixing of rates is an art, not a science. The apportionment of charges as between different commodities can be only a rough and approximate one, since it is made by fallible men on imperfect data. It is made by men who are subjected to constant pressure from special interests—interests that seek a special commodity rate to enable them to get in a particular market or to bid on a particular contract. It is made by men who at times have served their pecuniary interests rather than the interests of the railroad and its shippers. And even though the adjustment of rates be equitable at the time it is made, it may cease to be so. Rates that are made to meet the commercial conditions prevailing at a particular time require revision as these conditions change, yet the revision may be blocked by the opposition of an interested carrier. It is therefore necessary for the government either to operate the railroads itself or to establish an impartial agency to hear and decide complaints alleging unreasonable or discriminatory rates. In this country we have retained private ownership, and have established an Interstate Commerce Commission to regulate the railways. Yet whether we have public ownership or private ownership subject to regulation, it will be necessary to retain in its fundamental outlines the system of rates based upon charging what the traffic will bear. The most that the Commission can be expected to accomplish is to prevent the general level of rates from being excessive (while at the same time adequate—a most difficult task), and to eliminate the abuses that result from the practice of charging what the traffic will bear. But the principle of charging what the traffic will bear the Commission has not endeavored—and should not endeavor—to change.

REFERENCES

ACWORTH, W. M.: *The Elements of Railway Economics* (1905).
BROWN, H. G.: *Transportation Rates and their Regulation*, ch. 1 (1916).
DUNN, S. O.: "Railway Freight Rate Making," *Railroad Age Gazette*, vol. 47, pp. 226–230 (August 6, 1909).
HADLEY, A. T.: *Railroad Transportation*, ch. 6 (1885).
JOHNSON, E. R. and VAN METRE, T. W.: *Principles of Railroad Transportation*, ch. 21 (1921).
NOYES, W. C.: *American Railroad Rates*, chs. 1–3 (1905).
RIPLEY, W. Z.: *Railroads: Rates and Regulation*, chs. 2–3 and pp. 166–184 (1912).
TAUSSIG, F. W.: "A Contribution to the Theory of Railway Rates," *Quarterly Journal of Economics*, vol. 5, pp. 438–465 (July, 1891).
——: *Principles of Economics*, vol. 1, ch. 16; vol. 2, ch. 62 (1921).

CHAPTER V

RUINOUS COMPETITION

In this chapter (and the succeeding chapters) it is proposed to point out some of the practical applications of the theory of railroad rates as developed in the preceding chapter. The purpose of this exposition is to explain, but not necessarily to justify, the policies of railroad officials; and thus to facilitate an understanding of the legislation that was enacted to deal with the abuses that arose under conditions of unregulated competition among railroad companies.

The topics to be discussed are: (1) ruinous competition; (2) local discrimination; (3) personal discrimination; (4) classification of freight; (5) rate systems. This chapter deals with ruinous competition.

It is a generally accepted view that competition among railroads, unless restrained in some manner, tends to become "ruinous," that is, fails to establish a normal level of rates sufficiently remunerative to attract the additional investments of capital that recurrently become necessary.[1] Competition, it should be observed, may properly be regarded as ruinous even though the general level of rates is sufficiently high to permit the competing roads to meet their interest charges (or other fixed charges), providing it is not sufficiently high to permit an adequate return to the stockholders.[2] For rates that deny stockholders adequate dividends as well as those that deny bondholders their interest on a proper indebtedness will discourage further investments in railways, and will prevent the shippers and the public from securing the high grade of service which they demand.

Explanation of Tendency Toward Ruinous Competition

The main explanation of the tendency toward ruinous competition is the proportionately large investment in fixed and special-

[1] See my article, "Is Competition in Industry Ruinous," *Quarterly Journal of Economics*, 34, p. 473 (May, 1920).

[2] It is assumed, of course, that the amount of bonds or stock outstanding is not excessive.

ized plant. The large investment in fixed plant (roadway, structures, terminals, etc.) gives rise to large fixed (or constant) expenses, that is, expenses that do not vary in proportion to changes in the volume of traffic. Since the expenses do not increase in the same ratio as the traffic, a railroad is naturally desirous of securing additional traffic, in order to profit by the law of increasing returns. If it can secure additional traffic without making concessions in rates, so much the better; but the point to note is that the railroad can afford to take additional traffic at any rate which exceeds the *extra cost* incurred on account of the increased business. The reason that the rate on this additional traffic need not cover its proportionate share of the fixed expenses is that these expenses (being fixed) will continue whether or no the added traffic be taken. It suffices, therefore, if the rate is high enough to make some contribution, however slight, to the fixed expenses.

The added traffic thus secured may be new traffic or it may be traffic that had been moving over another railroad line. If the former, its carriage represents a net gain; if the latter, it represents a diversion of business not likely to be submitted to by the other road. For it is quite as true of the second road as of the first that its expenses are largely fixed (constant), and therefore it can not tamely submit to such a loss of its business. If it meets the rate of its competitor, the particular item of traffic affected will fail to make its proportionate contribution to the fixed expenses, but it is better that the competitive traffic make some contribution to these expenses than none. Accordingly the second road will usually meet the rate or even cut it still further, thus leading in all probability to another cut by the original trespasser until finally the rate may fall so low that it barely covers the extra cost occasioned by the movement of the competitive traffic.[1]

[1] To make these principles concrete, we quote a paragraph from Hadley's *Railroad Transportation*, pp. 70–71. "Let us take an instance from railroad business,—here made artificially simple for the sake of clearness, but in its complicated forms occurring every day. A railroad connects two places not far apart, and carries from one to the other (say) 100,000 tons of freight a month at 25 cents a ton. Of the $25,000 thus earned, $10,000 is paid out for the actual expenses of running the trains and loading or unloading the cars; $5,000 for repairs and general expenses; the remaining $10,000 pays the interest on the cost of construction. Only the first of these items varies in proportion to the amount of business done; the interest is a fixed charge, and the repairs have to be made with almost equal rapidity, whether the material wears out, rusts out, or washes out. Now suppose a parallel road is built, and in order to secure some of this business offers to take it at 20 cents a ton.

Below this point it would not ordinarily be to the interest of either road to go. Yet at this point, it is generally conceded, the rate on all competitive traffic may remain for considerable periods of time. If, then, there are present the conditions favorable for such a struggle, that is, transportation facilities in excess of the traffic offered at rates remunerative to the railroad, and a large percentage of traffic that may move by two or more roads instead of being local to any one road, rates may for some period of time be ruinous to both roads.

The qualifications above made are important. If a road's transportation facilities are not in excess of the traffic offered at remunerative rates, that is to say, if its plant is fully utilized at profitable rates, it is under no pressure to bid for the traffic of adjoining roads. Competition among lines thus blessed can not be said to be ruinous; in fact, it would be nearer correct to say that there was no competition among them at all. Such a happy state, however, is not likely to endure. The growth of population and trade renders it necessary for railroads to make additions and extensions, and if the added facilities can not be fully utilized at the rates then in effect, a competition for traffic and a reduction in rates ensue.

Again, competition will not be ruinous if the competitive traffic represents a comparatively small percentage of the total traffic. Every railroad has some local, noncompetitive traffic on which it can charge comparatively high rates. If the local traffic is large enough, the road may be able to meet the joint expenses, toward which the competitive traffic makes but slight contribution, out of the relatively high rates charged on the local traffic. The outcome, of course, is a discrimination against the noncompetitive traffic—a case of local discrimination. This is a subject that we shall discuss shortly, but the point for the reader to grasp

The old road must meet the reduction in order not to lose its business, even though the new figure does not leave it a fair profit on its investment; better a moderate profit than none at all. The new road reduces to 15 cents; so does the old road. A 15-cent rate will not pay interest unless there are new business conditions developed by it; but it will pay for repairs, which otherwise would be a dead loss. The new road makes a still further reduction to 11 cents. This will do little toward paying repairs, but that little is better than nothing. If you take at 11 cents freight that cost you 25 cents to handle, you lose 14 cents on every ton you carry. If you refuse to take it at that rate, you lose 15 cents on every ton you do not carry. For your charges for interest and repairs run on, while the other road gets the business."

is that railway competition, unless restrained, leads either to failure or to discrimination. Since neither of these results is socially desirable, it is to the public interest that this competition be restrained. The manner in which it has been or should be restrained will receive consideration in due course.

The tendency toward ruinous competition, it should be noted, does not result solely from the presence of large fixed plant not fully utilized. For if rates (or prices) in an industry characterized by large plant fall to an unprofitable level, the plant may conceivably be employed for some other purpose, which does offer the prospect or opportunity of profit. It is only when the plant is specialized in character, wedded, as it were, to the fortunes of that particular industry, that the tendency toward ruinous competition appears. The railway clearly illustrates this case; its roadbed and much of its structures and equipment are suited to no other purpose than the provision of transportation. Even though the operation of the road bids fair to remain unprofitable indefinitely, most of the capital invested in its construction must remain irrevocably committed to that enterprise. Therefore, so long as the gross earnings are greater than the operating expenses, it will be advisable to continue to operate the road; for in this way there is realized something, however little, toward the fixed charges.[1] If the railroad finds itself obliged to default the interest on its bonds, it will be thrown into the hands of a receiver. Whether a default will be necessary or not will depend, in considerable measure, on whether the railroad has a large amount of local, noncompetitive traffic to fall back upon. Yet even if the road is put in the hands of a receiver, its operation will not be suspended; in fact, its competition may become even more vigorous. The insolvent road has as its slogan, "business at any price rather than no business at all"; and it is not handicapped in the competition for business by the necessity of meeting its interest obligations, as is the road that has not yet become insolvent. As the result of the receivership proceedings the ownership of the property may be transferred from the stockholders (the former owners) to the bondholders (the former creditors); but the new owners (the former bondholders) will continue the struggle for traffic.

[1] Unless indeed the road earns less of a surplus than the nonspecialized property (for example, terminal property in the heart of a city) could earn in alternative uses.

Eventually, of course, the struggle will cease, for the investing public will not continue indefinitely to supply the railroads with funds with which to carry on a ruinous competition; but the struggle will continue until the existing investment and plant are worn out, or until the country grows up to the surplus transportation facilities, or until the railroads arrange a truce of one kind or another.

Another consideration that makes for ruinous competition is the small number of railroads serving a given territory. It is generally agreed that competition is more likely to be ruinous when the number of competitors is few. In manufacturing industry if the number of competitors is large there will presumably be considerable differences in their costs. Therefore, before the price falls so low as to be ruinous to the industry as a whole, it will prove unremunerative or ruinous to the high cost companies, and they will gradually retire from the field. As they retire the output will decline, and the price will tend to rise again. This is one reason why competition is rarely ruinous in industry. But in railroad competition, there are usually only a few companies involved, and only rarely is any one of them carrying all the traffic that it could economically handle. The motive to compete is thus stronger, and, practically speaking, there can be no such thing as a retirement from the field.

Illustrations of Rate Wars

We may now give concreteness to these statements by some illustrations of rate wars in this country. Though rate wars were observed at an early date in railroad history, it was not until after the Civil War that they became prominent. Prior to that date the railroad lines were local in character, and served a limited constituency. With the entrance of the Pennsylvania and New York Central into Chicago in 1869 bitter rate wars broke out, the competition for the carriage of grain to the seaboard being especially severe. In the autumn of 1868 the rate from New York to Chicago was $1.88 per hundred pounds on first-class goods, and 82 cents per hundred pounds on fourth-class goods. In the summer of 1869 these rates fell to 25 cents per hundred pounds. Subsequently the rates were advanced, but in 1874 the Baltimore and Ohio was connected with Chicago, and the Grand Trunk connected Milwaukee and Detroit with the Atlantic ports; and

an intense competition for Chicago traffic developed. The Pennsylvania and New York Central endeavored to maintain rates, but without success, the situation being aggravated by the necessities of the insolvent Erie. In 1876 during the course of a violent rate war the quoted first-class rates fell to 15 cents, and the fourth-class rates to 10 cents.[1] In 1877 the struggle came to an end; and the railroads in trunk line territory established a pool and provided for a division of traffic. In 1881 the struggle was renewed, being intensified by the competition of the Nickel Plate and West Shore, which had been built to parallel the Lake Shore and the New York Central, respectively. During the middle eighties there was some improvement, particularly after the passage of the Act to Regulate Commerce in 1887; but in 1888 a bitter rate war broke out between the Grand Trunk and its American competitors. The competition affected particularly the rates on dressed beef. During 1879 the rate from Chicago to New York had been reduced from 90 cents per hundred pounds to 56 cents; in 1888 it went as low as 7 cents.[2]

The prosperity of the early nineties brought improvement, but the panic of 1893 was followed by severe rate wars all over the country. The situation was particularly bad in the South, in which territory the competition of the carriers had long been restrained through the activity of the Southern Railway and Steamship Association, a pool organized in 1875 and quite effective until its power was diminished in 1887 by the legislative prohibition of pooling. As an illustration of the drastic nature of the cuts in this section, the rate from New York to Atlanta fell in 1894 from $1.14 per hundred pounds, first-class, to 40 cents—a drop to 35 per cent of the former figure. In transcontinental territory rates were badly cut as the result of the competition of the water lines and the railroads—a competition that caused the Union Pacific Railroad to fail. In the East and Middle West also there were rate wars, grain rates, for example, from Chicago to New York being reduced 40 per cent; yet conditions were not quite so serious here because of the activities of the Trans-Missouri Freight Association and the Joint Traffic Association. These associations were not pools—pools had been made illegal in 1887

[1] "Railways in the United States in 1902," House Document no. 253, part 3, 58th Cong., 2nd Sess., 1904, p. 44.

[2] Ibid., p. 86.

—but they were associations to fix or maintain rates, a form of organization that was not forbidden by the Act to Regulate Commerce of 1887. In 1897, however, the Supreme Court held the Trans-Missouri Freight Association illegal under the Sherman Anti-trust Act as being a combination in restraint of trade; and the next year the Court pronounced the Joint Traffic Association illegal also.[1] In 1898 the Interstate Commerce Commission found rate cutting so general that it brought pressure to bear on the railroad officials to induce them to restore the published tariffs. Thereafter for a number of years rate wars diminished in severity, partly because of the prosperity of the country, which resulted in a volume of traffic that at times taxed the capacity of the railroads, and partly because of the establishment of far-reaching railway combinations. To be sure, rate reductions were great enough in 1902 to induce the Interstate Commerce Commission to seek injunctions in the courts against departures from the published tariffs; but in 1903 Congress passed the Elkins Act, which made more effective the prohibition of departures from the published tariffs, and thereafter conditions greatly improved. After 1903 there were other rate wars, notably those resulting from the competition of the trunk lines and gulf lines for the export of grain, but of late years rate wars have diminished in frequency and severity. In fact, they have almost ceased to exist.

The question naturally arises why rate wars have ceased to exist, if competition tends to become ruinous, as we have explained. The answer will doubtless suggest itself to those who have borne in mind the qualifications attaching to this proposition. Competition tends to become ruinous, we have said, *unless restrained in some manner;* and the recognition of the ruinous character of competition has led to the application of restraint.

Restraints upon Competition

The restraint has taken numerous forms. Prior to the seventies it took the form principally of agreements to maintain rates, each road being free to secure all the traffic it could at the established rates. These agreements brought some relief, yet only temporarily. Though it was to the interest of the parties to the agreement that rates be maintained, it was to the interest of individual roads to increase the volume of their traffic by slight concessions

[1] Cf. p. 101.

from the established rates. As Mr. Fink, the manager of the Southern Railway and Steamship Association, observed, these agreements were generally made by the railroad officials merely for the purpose of practicing deception upon one another; and as soon as the deception was discovered, or even suspected, the departures from the tariffs agreed upon became universal. It eventually became clear to the railway officials, therefore, that rates could be maintained only by the adoption of some arrangement that would remove the *incentive* to rate cutting.

Throughout the seventies and the eighties pooling agreements were entered into, as a substitute for rate agreements. By these pooling agreements the competitive traffic was divided among the parties in definite proportions, or the earnings from the traffic were divided, no attempt being made to divide the traffic. The first of these arrangements was called a traffic pool, the second a money pool. In the traffic pool each railroad that was party thereto was allotted (and guaranteed) a stated percentage of the competitive business, and if any railroad failed to secure the stipulated percentage, tonnage was to be diverted to it from those railroads which had carried more than their allotment. In the money pool each member was allotted (and guaranteed) a stated percentage of the *receipts* from the competitive traffic, and this percentage it was to receive irrespective of the amount of traffic hauled by it during the life of the pool. However, in order not to be unfair to the railroad that carried a larger proportion of the traffic than its proportion of the receipts called for, it was customary to allow each railroad to retain a certain percentage of the receipts from the pooled traffic, as a partial reimbursement at least for the cost of hauling. When this arrangement was adopted only the receipts over and above this allowance were turned into the pool for periodical distribution to the members in accordance with the guaranteed percentages. The pooling agreements, unlike the rate agreements, made necessary the establishment of an organization to see to it that each railroad received the traffic or earnings which it was guaranteed, and to handle the funds that were turned into the pool pending their distribution among the members as per agreement. These functions were ordinarily carried on by an organization known as a traffic association, although the activities of these associations were seldom confined to these particular functions.

The pooling agreements introduced a certain element of stability into the situation, and in some areas a considerable element of stability. So long as a particular pool was in existence there was obviously nothing to be gained by cutting rates; for the pool guaranteed to its members a stipulated percentage of the traffic or of the receipts, as the case might be. If the allotment of percentages was made for a relatively long period, or if the railroads were able to agree upon a new allotment upon the expiration of the pool, rate cutting might be avoided and ruinous competition prevented. Such proved to be the case in numerous instances. The first important railroad pool was the Chicago-Omaha pool, established in 1870. This pool, which divided the Chicago-Omaha business equally among the Chicago, Burlington and Quincy, the Chicago and Northwestern, and the Chicago, Rock Island and Pacific, was maintained without a break for twelve years. Following a brief rate war in 1882 it was reorganized, and two years later merged in a larger association. Another important pool was the Southern Railway and Steamship Association, organized in 1875.[1] This association, the activities of which were not confined to pooling, soon included nearly all the railroads of the South, as well as a number of steamship lines. It was well managed from the outset, and it succeeded for many years in maintaining a considerable degree of harmony among the southern railroads.

Though many of the pools were quite successful, this was by no means the universal experience. Usually the pools were to continue for a comparatively short period, say a year or more. The temptation was strong, therefore, to cut rates in order to secure an increased volume of tonnage, and upon the basis of this increased tonnage to claim an increase in the allotment for the ensuing year. Such aggressive tactics made an agreement upon percentages difficult, and frequently led to the dissolution of the pool. Thereupon rate cutting was unrestrained. Notwithstanding the frequent dissolution of pools through the inability of the railroads to come to terms, this method of restraining competition was widely employed. In fact, in 1887, in which year pools were declared illegal by federal statute, practically every railroad with a considerable volume of com-

[1] On this association, see Hudson, H., *Quarterly Journal of Economics*, 5, pp. 70–94 (October, 1890).

petitive traffic was a member of one or more pooling organizations.

The principal weakness of the pool, even before 1887, was its illegality. Though not prohibited by federal statute until 1887, pools had long been illegal under the common law. For the benefit of the reader not familiar with this term it may be said that common law is a system of unwritten law, not evidenced by statute. Its sources are found in the usages and customs of the people, and its expositors are the courts. That is to say, in the absence of a state or federal statute, the courts would still hold railway agreements illegal, if they were opposed to public policy. Such was the status of pooling agreements prior to 1887. These agreements, when they resulted in a restraint of trade, were illegal in the sense of being void and unenforceable; that is, no court would lend its aid to their enforcement. They were not illegal, however, in the sense of being punishable; and as a result the railroads were at perfect liberty to enter into them if they pleased. The railroads were equally privileged to withdraw from them at their pleasure without fear of legal prosecution for violation of contract; and therefore it was difficult to maintain them. Difficult though it was, the attempt was nevertheless made, and with a considerable measure of success. Whether these pooling agreements were a detriment to the public has been vigorously debated. The advocates of pooling contended that competition did not work satisfactorily in the railway business; that it produced inadequate, unstable, and discriminatory rates; and that pools (or some such device) were necessary to prevent these unfortunate results. They further claimed that, despite the pools, rates had declined very rapidly during the seventies and eighties. That railway rates had so declined could not truthfully be denied, but the opponents of pooling contended that the rates would have declined even more had it not been for the pools. The opposition to pools was such indeed that the Act to Regulate Commerce of 1887 made them positively illegal, instead of merely negatively illegal, as hitherto; and thereafter, of course, penalties were likely to be visited upon their members.

Upon the passage of the Act of 1887 the traffic associations reorganized their affairs to comply with the law, but they continued to restrain competition among the roads in the territory under their jurisdiction by fixing or maintaining rates. It was believed

that these associations were not forbidden by the statute, since, unlike the pools, they did not divide up the traffic or the earnings therefrom. But in 1890 Congress passed the Sherman Anti-trust Act, which made illegal every contract and combination in restraint of interstate commerce. This act introduced a new element into the situation. That Congress in enacting this statute had in mind primarily industrial combinations and trusts could not well be disputed, yet did not the statute apply also to railways? And if it did, what was the status under it of the traffic associations? These questions were settled by the decisions of the Supreme Court in the Trans-Missouri [1] and Joint Traffic Association [2] cases, rendered in 1897 and 1898, respectively. The Trans-Missouri Freight Association had been formed in 1889 for the stated purpose of establishing and maintaining reasonable rates, rules, and regulations on interstate freight traffic south and west of the Missouri River. The following year the Sherman Anti-trust Act was passed, but the association maintained its existence without change. The government claimed that the objects of the association were illegal, and brought suit to have it dissolved. Two lower courts decided in favor of the association, but the Supreme Court by a vote of five to four upheld the government. The association contended that the Sherman Act did not apply to railroads, but the Supreme Court pointed out that it applied to *every* contract and combination in restraint of interstate commerce, and therefore it covered common carriers by railroad. The association also contended that the agreement was reasonable, and therefore not illegal; but the Supreme Court held that agreements among competing railways to maintain rates—whether reasonable or unreasonable—were prohibited by the statute. This finding was reasserted in the Joint Traffic Association case, decided the following year. The attempt was made by railroad counsel to distinguish this case from the preceding one upon the ground that the Trans-Missouri Freight Association had power to fix rates, whereas the Joint Traffic Association had merely adopted rates already in force. The Supreme Court, however, found the Joint Traffic Association illegal also.

These decisions led to the reorganization of the traffic associations for a second time, but not to their abandonment. The

[1] 166 U. S. 290–374.
[2] 171 U. S. 505–578.

railroad officials still came together in traffic associations to discuss or agree upon many matters of mutual interest, such as the classification of freight, the making of joint rates, and the speed of passenger trains. The meetings of these associations gave the officials an opportunity for coöperation of which they seem to have availed themselves fully, so fully indeed that the Interstate Commerce Commission reported in 1901 that "the decision of the United States Supreme Court in the Trans-Missouri case and the Joint Traffic Association case has produced no practical effect upon the railway operations of the country. Such associations, in fact, exist now as they did before those decisions, and with the same general effect." [1] However, the Commission went on to say, "it is difficult to see how our interstate railways could be operated, with due regard to the interest of the shipper and the railway, without concerted action of the kind afforded through these associations."

Pools and rate agreements being illegal, the next move of the railroads was to enter into ambitious combinations, as soon as the return of prosperity in the late nineties made their organization feasible from a financial and banking point of view. We shall describe these combinations later,[2] and show that many of them were also unlawful; but it took a number of years to secure a judicial determination of this fact, and meanwhile the combinations held competition within bounds. Moreover, even after the illegal status of many of these combinations was established, means were found for realizing the end for which they had been created. To illustrate, the law forbade one railroad to acquire control of a parallel and competing line, but it did not forbid a financial or banking group to acquire control of both of these lines; and by such means (among others) competition among railroads is held in check in these modern days.

Competition has also been restrained by legislative enactment. The Hepburn Act of 1906 provided that no change might be made by a carrier in its rates until after thirty days' notice to the Interstate Commerce Commission. This requirement would naturally cause a railroad to hesitate to reduce its rates, since it would be thirty days at least before the higher rates could be restored. Yet of more importance in this regard was the provision in the

[1] *Annual Report of the Interstate Commerce Commission*, 1901, p. 16.
[2] Ch. 17.

Mann-Elkins Act of 1910 to the effect that the Commission might suspend proposed increases in railroad rates. A railroad that reduced its rates as a phase of a rate war ran the risk that the Commission would deny to it the privilege of restoring the former rates upon the cessation of hostilities, particularly since the Mann-Elkins Act made all rate increases presumptively unreasonable. And finally the Esch-Cummins Act of 1920 gave to the Interstate Commerce Commission the power to fix the minimum rates to be charged by a railroad. Since the Commission already had by the Hepburn Act of 1906 the power to fix the maximum rates, it is clear that it has now the power to fix the exact rate, and is therefore in a position to prevent ruinous competition. The Esch-Cummins Act also authorized railroad pools and combinations, subject to the approval of the Interstate Commerce Commission. Furthermore, it placed upon the Commission the duty of initiating and establishing such a level of rates as would enable the railroads to earn a fair return upon the value of railway property. Congress by this provision definitely registered its conviction that ruinous competition among railroads should no longer be allowed to exist.

There is still another factor that has tended to make competition less intense. The tendency toward ruinous competition is founded principally upon the fact that the railway plant is not fully utilized. This condition of incomplete utilization, however, is becoming less characteristic of our railroads. The speculative period in this country is passing. New roads and extensions of existing roads are built from time to time, but more definitely than during the earlier period in response to an existing need, rather than to a prospective need in the future. The principal lines of railroad are laid down, and the chief problem of the future will be to make the requisite extensions. The law of increasing returns appears to be losing some of its force, and as it continues to do so competition among the railroads for traffic will be less intense. Ruinous competition under modern economic and legislative conditions is thus disappearing, may, in fact, already have disappeared. Yet even if economic conditions were such as to encourage its return, it may be safely asserted that it would be in the public interest to intervene to prevent such an outcome. The shippers and the consuming public are interested first of all in service, but safe and adequate service can not be expected

unless the railroads are able to realize sufficient returns. It may consequently be assumed that public policy in the long run will demand that where competition is actually ruinous it be restrained in some fashion, in order that there may be maintained conditions that permit investments in railway property honestly and efficiently administered to earn an adequate return.

REFERENCES

Hadley, A. T.: *Railroad Transportation,* chs. 4–5 (1885).

Johnson, E. R. and Van Metre, T. W.: *Principles of Railroad Transportation,* chs. 17–19 (1921).

Jones, Eliot: "Is Competition in Industry Ruinous," *Quarterly Journal of Economics,* vol. 34, pp. 473–475, 488–497 (May, 1920).

Larrabee, William: *The Railroad Question,* ch. 7 (1898).

Noyes, W. C.: *American Railroad Rates,* ch. 6 (1905).

Ripley, W. Z.: *Railroads: Rates and Regulation,* ch. 12 (1912); *Railroads: Finance and Organization,* ch. 18 (1915).

CHAPTER VI

LOCAL DISCRIMINATION

Judge Walter Noyes, the author of an excellent book on railroad rates, defines discrimination in general terms as an inequality in charges, and more specifically defines it as a difference in charges for transporting (1) an equal quantity of (2) like articles in (3) the same manner for (4) an equal distance.[1] Some discriminations are justifiable and some are not, but a difference in charges is not a discrimination at all unless the articles transported are substantially equal in quantity, are like in character, are carried in virtually the same manner, and for practically the same distance. It is not discrimination if the rate per ton is lower when goods are shipped in carload lots than when shipped in less than carload lots; for the quantities are unequal. It is not discrimination if the rate per ton is lower on coal than on silks; for the articles are quite dissimilar. Again, it is not discrimination if the rate per ton is lower on goods carried by slow freight than by fast freight; for the manner of transportation is different. Finally, it is not discrimination if the rate per ton is less from New York to Chicago than from New York to St. Louis; for the distance is less.

There are three principal varieties of railroad discrimination: discrimination between localities; discrimination between persons; and discrimination between commodities. This chapter deals with discrimination between localities, or local discrimination, as we shall call it.

Local discrimination exists when a railroad charges more for carrying an article from A to B than it does for carrying the same article from A to C, B and C being equidistant from A; and exists when a railroad charges more (or the same) for carrying an article from A to B than it does from A to D, B being nearer than D to A, and being quite possibly an intermediate station on the line from A to D. It is assumed here, of course, that in each

[1] *American Railroad Rates*, p. 89. Compare Seligman, E. R. A., *Political Science Quarterly*, 2, p. 236.

case the article is carried in substantially equal quantities and in substantially the same manner, otherwise there is no discrimination. Local discrimination may be justifiable, or at least necessitated by the prevailing economic conditions. The reasons for local discrimination will be examined shortly, but first some illustrations may be given.

Local discrimination has existed for many years and is very common even to-day. A manufacturer of tools, with a factory in Rochester, New York, testified that during the middle seventies he shipped his goods destined for Cincinnati eastward to New York City, and then westward to Cincinnati via Rochester, because he was able to effect a saving in this way of 14 cents per hundred pounds.[1] On shipments to St. Louis he realized a saving of 18 cents per hundred pounds by taking advantage of the abnormally low rates prevailing from New York City. An extreme case that received a great deal of publicity during the Congressional debates in 1886 was a rate of $3.25 per bale of cotton from Winona, Mississippi, to New Orleans, a distance of 275 miles, whereas the rate from Memphis to New Orleans, a distance of 450 miles, was only $1.00. The explanation offered was that there was river competition at Memphis, but not at Winona. The testimony before the Industrial Commission in 1900 brought out numerous cases of local discrimination. Thus, it was established that the rate on sugar from San Francisco to Denver was 75 cents per hundred pounds, but to Omaha, hundreds of miles further east, it was only 50 cents.[2] The rate on gloves from San Francisco to Denver was $2.00 per hundred pounds, but from Denver to San Francisco it was $3.00.[3] A member of the Interstate Commerce Commission testified before a Senate Committee in 1905 that the rate on window-shade cloth from New York to San Francisco was $1.00 per hundred pounds, while from New York to Salt Lake City it was $2.30.[4] On cotton goods the corresponding rates were $1.00 and $2.00. Rates from Chicago to Spokane, Washington, were about 80 per cent higher than to Seattle and Tacoma, hundreds of miles to the west.[5] Spokane was a railroad junction, but competition there was not active, as it was at the Pacific Coast ports.

[1] Report of Hepburn Committee (New York), 1879, p. 55.
[2] *Industrial Commission*, IV, p. 257.
[3] Ibid.
[4] Senate Document no. 243, 59th Cong., 1st Sess., 1906, pp. 3335–3336.
[5] Ibid., p. 2914.

The rate on bananas from Charleston, South Carolina, to Danville, Virginia, was 43 cents per hundred pounds, but from Charleston to Lynchburg, Virginia, the rate was only 20 cents, although the bananas in going from Charleston to Lynchburg passed through Danville.[1] The Interstate Commerce Commission held this discrimination to be unjust, but sanctioned a rate to Danville 12 cents per hundred pounds higher than the Lynchburg rate. Foreign shipments have been especially favored, rates from Hamburg, Germany, to Denver having actually been less than from Chicago to Denver.[2] Similar illustrations, applying to the present, as well as to the past, could be given by the hundreds and thousands.

Speaking more generally, that is less specifically, there are large areas in this country that have been characterized by local discrimination. In the southern states, those states lying east of the Mississippi River and south of the Ohio and Potomac rivers, the characteristic rate structure was long what is known as the basing point system. Under this system certain towns were designated as basing points, and were given relatively low rates. The rates to the other towns were made up of the rate from the point of shipment to the nearest basing point plus the rate from the basing point to destination. To illustrate, the rate from New York City to Troy, Alabama, fifty-two miles southeast of Montgomery, was the sum of the through rate from New York to Montgomery and the local rate from Montgomery to Troy. The rate from New York to Montgomery, therefore, was less than to Troy, even though the train passed through Troy en route to Montgomery.[3]

Again, the territory lying east of the Missouri River has a blanket or postage stamp rate to the Pacific Coast, that is, most of the points east of the river are given the same rate to the Pacific Coast, whether they be near the Missouri River or near the Atlantic Coast. This is local discrimination, since the rate is the same for widely varying distances. Another feature of the transcontinental rate structure is the discrimination against the intermediate towns, as, for example, those in the Rocky Mountains. Rates to these towns were, until quite recently, the sum of the rates to the Pacific Coast plus the rates from the Pacific Coast

[1] 10 I. C. C. Reports 342.
[2] *Industrial Commission*, IV, p. 493.
[3] Cf. p. 158.

eastward to the Rocky Mountains. These rate systems will be described in more detail in chapter IX, but enough has been said to indicate the nature and widespread character of local discrimination.

What is the explanation of local discrimination? The explanation is to be found in the theory of railway rates, as developed in chapter IV. The railroad industry is one of increasing returns, and therefore there has been (and still is) a constant pressure upon the railway traffic managers to get business. They naturally desire to take the business at high rates if possible, but it is better to take it at low rates than not at all, providing the rates are high enough to cover the extra cost of movement plus some contribution to the fixed (constant) expenses. On much of its traffic the railroad can get high rates, since many of the towns reached by it are served by no other carrier, though if the railroad pursues too extortionate a policy it may drive some of the shippers off its line or may discourage prospective shippers from locating along its line. But on a considerable portion of its traffic the railroad is unable to charge high rates, because of the competition of other carriers, whether water lines or railroad lines. The shippers at those towns that are blessed with water routes will not send their goods by rail, unless the railroad meets the rates by water, however low these may be. This applies, of course, only to those goods that can economically move by water; some goods, because they are perishable or for other reasons, will move by rail in any event. Unless, then, the railroad can buy out the water line or control it by some means, it must meet the rates imposed by water competition; and it may even cut below these rates in order to eliminate the water line from the field. Should it be successful in this object, the railroad can then raise rates at the competitive points, yet unless the rates at these points are comparatively low, new water lines will probably arise to plague the railroad. As a result the potential competition of water lines is likely to insure certain towns relatively low rates.

More important perhaps in enforcing low rates at certain places is the competition of railroads. Whenever two or more railroads serve a given town, low rates are likely to prevail. It is not necessary, of course, that the competing railways be parallel or nearly so. Quite commonly the competition arises from the desire of a circuitous, roundabout line to participate in the traffic. Such a

line, being an indirect one, would not normally secure roundabout freight, and therefore all that it can get represents clear gain. But to obtain it, it must offer the necessary inducements to shippers, and this means a reduction in rates. The railroads, to be sure, may agree in particular instances not to compete, and thus maintain rates at a noncompetitive level. Although such agreements have been common, it is undisputed that the competition of rival railways is one of the principal explanations—if not the principal explanation—of the low rates that have prevailed at competitive points.

How low may the rates at competitive points be allowed to fall in this struggle? Clearly no lower than the additional costs incurred on account of the transportation of the competitive traffic. Moreover, unless the rates are high enough to make some contribution, however slight, to the fixed expenses, the railroad gains nothing by taking the business. Yet if the rate is high enough to meet its separable expenses and to make some contribution to the fixed expenses the traffic is worth while. It would be more worth while if by agreement or otherwise the rates could be advanced, but if this is not possible or feasible the railroad will continue to compete for the business at the lower rates. The competitive traffic therefore fails to meet its proportionate share of the joint (general) expenses. Yet the railroad, if it is to be profitable, must meet these joint expenses somehow, and therefore it charges high rates on the noncompetitive traffic. The result, of course, is local discrimination.

It is often maintained that the charging of lower rates at the competitive points does not work injury to the intermediate, noncompetitive points. The railroad, it is said, must make low rates on the competitive traffic, if it is to participate in its movement. If these low rates defray a part of the joint expenses, the burden on the noncompetitive traffic is lightened to that degree, and, therefore, it is maintained, local rates are lower than they would be if the railroad handled none of the competitive traffic. Underlying this argument there are three assumptions: (1) that a railroad's plant is adequate to handle the competitive traffic as well as the noncompetitive; (2) that its plant is more fully utilized because of the handling of the competitive traffic; and (3) that competitive conditions among carriers prevail. If these assumptions be valid, it is doubtless true that local rates on a

particular railroad are lower than they would be if the railroad made no bid for the competitive traffic. If any one railroad raised the rates on the competitive traffic to the level of the local rates, it would lose the business to other carriers, its plant would be less fully utilized, and the fixed expenses would have to be met entirely by the local traffic. This, of course, would involve higher local rates, unless the burden were to fall upon the railroad.

Historically viewed, therefore, local discrimination is easily explained, and bearing in mind the conditions that gave rise to it, is in large measure justifiable from the standpoint of any particular railroad. Yet the conclusion that the local, intermediate towns are not injured does not necessarily follow. Undoubtedly the local rates are lower, yet every student of railway rates knows that the primary concern of the shipper is not the rate that he pays, but the relationship between his rate and that of his competitors. It is not absolutely high rates so much as relatively high rates that injures the noncompetitive points. Therefore, to establish that local discrimination reduces the local rates is not conclusive.

Granting that the noncompetitive towns are injured by the practice of local discrimination, from the standpoint of public policy should they be granted relief? Though the difficulties involved are fully recognized, the answer is in the affirmative. The argument in favor of local discrimination is based on the assumption that the railroads' plant will be more fully utilized because of the handling of the competitive traffic, and that the burden per unit of traffic will therefore be lighter. Yet there is no reason to believe that local discrimination causes the facilities of the carriers as a whole to be more fully utilized. It may cause traffic to go by the railroads rather than by water lines, or it may cause it to go by one railroad rather than by another. But it does not increase the total volume. Low rates, of course, do increase the volume of traffic, but discriminatory rates do not. By discrimination, to be sure, one carrier may increase the volume of its business. Yet one carrier's gain is another carrier's loss; and invasion by one leads to retaliation by the other. The railroads may be a unit also in desiring to throttle the competition of water carriers, but the public is interested in having their competitive power preserved, if they are able to carry goods economically in competition with the railroads.

The argument for local discrimination is also based on the assumption that there is competition among the carriers. This assumption has been well founded, but as we shall later show competition among railroads has been much diminished of late years as the result of combination and legislation.

Another explanation of local discrimination is the arbitrary action of railway officials. Some towns have been given low rates, not because this was to the financial interest of the railroad, but because it was to the financial interest of the railway officials or favored stockholders. Particularly in the earlier days of railroad construction, say fifty years ago, it was not uncommon for the "insiders" to acquire land in the vicinity of prospective railway stations; and obviously the market for such land would be improved by according favorable rates to that particular town. Even after the town had been established there was the possibility of profit in land speculation through the granting of low rates to favored towns. Again, there is an incentive to grant low rates to towns wherein there are located manufacturing or mining concerns in which the "insiders" own stock. Low rates have been granted because the business interests of a particular town have been aggressive in demanding such consideration. They have been granted to favor persons who have political influence, or who through family or business connection can exert pressure upon the management in behalf of a particular locality. For such discriminations there is no warrant whatever, and it is to be hoped that the moral conscience of the people and legislative enactments will effect their complete elimination. Clearly there is no room for paternalism or favoritism in the business of running a railroad in the public service.

To explain how local discrimination has arisen is not necessarily to justify it. In fact, local discrimination is *prima facie* objectionable, and should be done away wherever possible. Local discrimination stimulates production at the competitive points, and discourages production at the noncompetitive points. The mere fact that a town is served by two or more carriers gives no guarantee that it is particularly adapted for economical production; and therefore local discrimination often results in neutralizing the natural advantages in production of certain towns in the interest of others. Local discrimination fosters an unnatural and uneconomical location of industry, and thus dimin-

ishes the wealth and prosperity of the country. Local discrimination promotes the concentration of population and wealth in the cities, and thus intensifies the drift toward urban centers. If this movement to the cities conduces to economic efficiency, there is little use inveighing against the movement, yet it is not desirable through local discrimination to place a premium on the growth of cities, particularly in view of the advantages of smaller towns from the standpoint of the development of physical vigor, and the maintenance of social and political stability. The evil of local discrimination well illustrates the dangers involved in the principle of charging what the traffic will bear when practiced by a railroad having a monopoly of local traffic, even though subject to competition on a portion of its traffic. Unless restrained in some way railroads have it in their power to build up or destroy a commercial center almost at will. They can decree that one community shall prosper, and that another shall languish or even perish. From the standpoint of public policy it is not right that shippers who have the option of a competitive route should be given lower rates than competing shippers whose freight is entirely within the control of the railroad on which they are dependent. The necessity of some form of government control is thus manifest.

Our conclusion with regard to local discrimination, then, is that it is objectionable in principle, but that it has often proved necessary in practice. Granting the existence of keen competition for traffic, the railroads had practically no alternative but to make low rates on the competitive traffic; and since these rates did not make their proportionate contribution to the joint expenses, the rates on the noncompetitive traffic had to be high enough to supply the deficiency, unless indeed many of the roads were to become insolvent. The railroads, to be sure, might have abandoned the competitive traffic, say to the water lines, yet this would not have helped the noncompetitive points. So long as the rates to the competitive centers made some contribution to the joint expenses, the burden on the local points was lessened; and had the railroads foregone the competitive traffic the rates to local points would have had to be raised to make good the revenue that was lost. The railroads might also, when water competition was absent, have entered into an understanding or agreement to pool traffic or maintain rates at the competi-

tive points, and they did so intermittently. Yet these understandings and agreements were successively declared illegal; and therefore local discrimination continued. Objectionable though local discrimination be, its persistence may not fairly be said to be the fault of the railroads (except when the result of arbitrary action, as explained above), since it resulted from the policy of competition demanded by the people and embodied in legislative enactments.

Of late years local discrimination is not as common as it used to be. Several factors have contributed toward this result. One is the spread of the combination movement. Denied the right to pool traffic or earnings, and denied the right to agree to fix or maintain rates, the railroads embarked in the late nineties upon an ambitious program designed to substitute combination for competition, harmony for warfare. Many of these combinations were attacked by the government as being in violation of the Sherman Anti-trust Act, and some of them were dissolved. Nevertheless in one way or another—quite commonly, for example, by means of banking control of competing properties—their underlying object was realized, and competition among railways is no longer as active as it used to be. Moreover, the people, in so far as one may judge by the enactments of their legislative representatives, no longer rely upon competition among railroads as much as they did twenty-five and fifty years ago. Thus, whereas the Act to Regulate Commerce of 1887 forbade the pooling of traffic and earnings, and the Sherman Anti-trust Act of 1890 forbade combinations in restraint of trade, the Esch-Cummins Act of 1920 sanctions pools and combinations if approved by the Interstate Commerce Commission, and specifically provides for permissive consolidations of railway carriers. Since competition is the principal cause of local discrimination, the substitution of combination for competition may naturally be expected to reduce the volume of such discrimination.

Another factor that tends to alleviate local discrimination is legislative prohibition as embodied in long and short haul clauses. Thus, the Act to Regulate Commerce of 1887 made it illegal for a railroad to charge a higher rate for a short haul than for a long haul, when the traffic moved in the same direction, when the short haul was included within the longer, and when the conditions were substantially similar. The Interstate Commerce

Commission was given authority, in special cases, to relieve carriers from this prohibition. The Commission in the cases that came before it held that the competition of water carriers (which were beyond its control) and the competition of foreign railways (also beyond its control) constituted a dissimilarity of conditions; and when such competition was present it relieved the railroads from the prohibitions of the long and short haul clause. Yet it steadfastly refused to recognize the competition of railways as creating a dissimilarity of conditions. The Supreme Court, however, in 1897 overruled the Commission on this point, and by its decision rendered the long and short haul clause ineffective. Since the competition of railways was largely responsible for the lower rates to competitive points, a finding that if there was railroad competition at the competitive points lower rates were not illegal obviously made the long and short haul clause practically a dead letter.

Thus the situation remained until 1910. In that year Congress eliminated the words "under substantially similar circumstances and conditions," and thereafter the competition of railways no longer sufficed to excuse lower rates to the competitive points. The Commission, however, was given authority, as before, to relieve the railroads from the prohibitions of the long and short haul clause. That greater progress was not immediately made under this legislation is due principally to the fact that water lines, which were not under the control of the Interstate Commerce Commission, except in quite a limited fashion, continued to compete actively for business. The competition of many of the water lines had been eliminated by the railroads, by purchase or in other ways, yet after the opening of the Panama Canal in 1914 water competition became more effective. The Commission, not being able to control the water lines, felt obliged to allow the railroads to meet the rates imposed by water competition, and thus there continued to be in southern and transcontinental territory marked local discriminations in favor of towns enjoying water competition. Of late years, however, the Commission has been moving steadily toward the revision of the southern and transcontinental rate structures in compliance with the spirit of the long and short haul clause. The nature of this revision will be described in the chapter on Rate Systems.

REFERENCES

HADLEY, A. T.: *Railroad Transportation*, pp. 114–119 (1885).
NOYES, W. C.: *American Railroad Rates*, ch. 5 (1905).
RIPLEY, W. Z.: *Railroads: Rates and Regulation*, ch. 7 (1912).

CHAPTER VII

PERSONAL DISCRIMINATION

Discrimination between persons (personal discrimination) is charging one person more than another for substantially the same service, or providing one person better service than another at the same rate. A lower rate on commodities when shipped in carload lots than when shipped in less than carload lots is not personal discrimination; in fact, as we have seen, it is not discrimination at all, since the quantities are unequal. Personal discrimination should be distinguished from rebating. The latter is now regarded in federal law as a departure from the published tariffs, that is, the tariffs published by a railroad, and filed with the Interstate Commerce Commission. Such departures from published tariffs (rebates) may or may not involve personal discrimination. If the rebates are accorded only to certain shippers, there is personal discrimination; if they are accorded to all shippers, there is not.

Personal discrimination arises mainly through the competition of railroads for traffic. The railroad equipment is seldom utilized to its capacity, and therefore an increase in business does not involve a corresponding increase in the cost of handling. The law of increasing returns thus places upon railway managers an almost continuous pressure to "get the tonnage." The competition for traffic is accentuated by the fact that the railroad industry is subject to the law of joint cost. If necessary, the railroad managers will accept on a particular shipment any rate that meets the special expenses fairly attributable to that shipment, plus some small contribution to the joint expenses. This leaves the remainder of the joint expenses to be met by the rest of the traffic, yet the burden on the rest of the traffic would not be less, but greater, if the competitive traffic were abandoned. For the joint expenses must be met somehow; and if the competitive traffic makes some contribution thereto, less remains to be met by the noncompetitive traffic.

Why does competition for traffic lead to *personal* discrimina-

tion? Why are the rates not cut to all shippers? There are two reasons. First, one road can successfully entice traffic away from another only by keeping the reduction in rates secret. If the reduction in rates is granted to all shippers, it will become known to the road that formerly enjoyed the traffic. The officials of this road may suspect the existence of rebates, even if they are granted only to a single favored shipper; but they will be enabled to substitute knowledge for suspicion if the rate reduction is general. Only by secrecy, therefore, can the aggressor railroad hope to retain the freight that it has "stolen" from its rival. Second, reduced rates are given to the larger shippers because they demand them. It must not be supposed that the railroads are solely to blame for the existence of personal discrimination. In the competitive struggle between shippers an advantage in freight rates may easily outweigh superior efficiency in production or selling; and therefore the shippers find it to their interest to work for preferences in rates. In this contest the larger shippers have the whip hand. Whether or no they have become large shippers because of railway favors, the fact that they are large shippers improves their bargaining power. They can play off one railroad against another, and profit by the necessities and fears of both. In time a shipper may become so strong and powerful that he can dictate to the railroads that made him; his volume of traffic may become so great that none of them can afford to stand against the industrial giant that they have created. The railroads may even become so helpless that they will agree, not only to give their favored shipper lower rates than his competitors, but also a portion of the excessive freight rates paid by his competitors. Thus, the Cincinnati and Marietta Railroad in 1885 gave the Standard Oil Company a rate of ten cents per barrel on shipments of crude oil from Macksburg, Ohio, to Marietta, Ohio, while it charged the independent shippers thirty-five cents; and the railroad then turned over to the Standard twenty-five cents of the rate paid by the independents. Blessed with railway favors a shipper may secure a monopoly of the business; in fact, the railroad rebate is responsible to no inconsiderable extent for the spread of monopoly in industry.

Though personal discrimination arises mainly through railroad competition, it also arises through an abuse of trust on the part of railroad directors and officials. The officers of the railroad have

given low rates to concerns in which they were financially interested; they have given low rates to earn a bribe that they have accepted from some shipper who was willing to pay the price of railroad favoritism; and they have given low rates to take care of some relative or friend. These low, discriminatory rates constitute an abuse of trust, because the duty of the directors and of the officers is to protect the interests of the stockholders, for whom they are trustees, rather than to promote their own interests at the expense of the stockholders.

Though it is possible to account for personal discrimination, it is not possible to defend it. Speaking generally, personal discrimination is objectionable because it denies to certain shippers, particularly the smaller ones, that equality in the use of the public highways to which they are entitled, and because, therefore, it is opposed to the spirit of fair play. More specifically, personal discrimination is objectionable because it weakens the productive power of the country. In a competitive régime the concerns that are efficient and progressive should be the ones to survive and to make satisfactory profits. Yet this will not prove to be the outcome, if the railroads are permitted to discriminate unfairly between shippers. The railroads might, to be sure, discriminate in favor of the more efficient concerns, yet there can be no assurance that they will do so. On the contrary, they are more likely to discriminate in favor of the larger shippers, whether efficient or not, because of the large volume of traffic at their disposal; and in this way the railroads prevent the smaller concerns, even though more efficient, from attaining that position in the industry to which their efficiency entitles them. Moreover, by awarding the victory in the industrial race to the concerns that show the greatest enterprise in the pursuit of favor, the railroads discourage the efficient from striving for greater efficiency, and encourage them instead to strive for favorable rates. Personal discrimination thus places a premium on subserviency and corruption. In some cases shippers will be able to get rebates by cultivating the good will of the dispensers thereof, by palaver, lip service, and what not; in other cases, they will be able to get rebates by resorting to an outright or indirect bribe. Finally, personal discrimination increases greatly the uncertainty and danger of business undertakings, and thus makes for greater margins of profit and for higher prices to the consumers. In

truth, it is possible upon no theory of rates or upon no theory of any kind to justify the practice of personal discrimination.

Not only does the community lose by personal discrimination, but the railroads and other carriers, taken as a whole, do not profit thereby. Like local discrimination, personal discrimination does not increase the total volume of traffic to be carried. It increases the business of the favored shippers, but at the expense of the others. Indeed, if personal discrimination leads to monopoly—and such is its tendency—it actually reduces the volume of traffic; for the profits of monopoly arise through the restriction of the output, and as a result there is less traffic for the railroads to handle. It is possible that a monopoly can produce more cheaply than less all-embracing business units, and it may be, therefore, that a monopoly does not result in higher prices, reduced consumption, and diminished traffic. This is possible, but as we have shown elsewhere,[1] it is not probable. The railroads would be better off, therefore, if personal discrimination could be eliminated.

Objectionable though personal discriminations be, they were the rule rather than the exception during the seventies and the eighties. Prior to 1887 there was no federal statute dealing with the matter; and the payment of more or less secret rebates was almost universal. Some shippers got larger rebates than others, but all of them whose business was really worth competing for received rebates, unless indeed some unusually big shipper was strong enough to prevent. According to an official of the New York Central, "the condition of giving the special rate is making the application."[2] It was rather well understood that the published tariffs were intended only for the small shippers and those "unsophisticated enough to pay the regular rate."

In 1887 there was passed the Act to Regulate Commerce. This act was designed to eliminate unjust discriminations, whether between localities, persons, or commodities. The provisions relating to personal discrimination forbade the railroads, directly or indirectly, by any special rate, rebate, or other device, to charge one person more than another for "a like and contemporaneous service in the transportation of a like kind of traffic under substan-

[1] *The Trust Problem in the United States*, 1921.
[2] Report of Hepburn Committee (New York), 1879, p. 159.

tially similar circumstances"; [1] and forbade the railroads to "give any undue or unreasonable preference or advantage to any particular person . . . in any respect whatsoever." [2] The penalty for a violation of these provisions was a fine of $5000 (or less) for each offense, but in 1889 the penalty of imprisonment for a period not exceeding two years was added for certain offenses.

The prohibitions of this act were far-reaching enough, but they had little influence. Their principal effect was to change the manner of giving rebates. Prior to 1887 the rebates were generally a refund to the shipper of a portion of the rate paid. This refund was usually in cash, though it sometimes took the form of presents to the shipper or his family, of free passes, and the like. The act of 1887 made it unsafe to give rebates in this form. The law required the railroads to make annual reports to the Interstate Commerce Commission, showing the receipts and expenses; and it gave the Commission authority to inquire into the affairs of the railroads. A cash refund, of course, had to be covered up in some way in the accounts of the railroads, perhaps by a charge to operating expenses, but this was rather risky. Accordingly the rebate in the form of a cash refund lost in favor. In its stead the railroads adopted numerous discriminatory devices, in most cases equally illegal, yet easier of concealment.

Some of the principal discriminatory devices resorted to after 1887 were:

(1) *Underclassification.* As we shall show in the next chapter, the commodities carried by the railroads are assigned to various classes, and the freight rate varies with the class. The freight rate on silks per hundred pounds is very much higher than on cheap cotton cloth. The shipper in connivance with the freight agent may classify a box of silks as cotton cloth, and who will know the difference? Indeed it is so difficult to detect this abuse that the shippers often practice it without the knowledge of the railroad. The commissioner of a railroad traffic association testified before the Industrial Commission that in 1898 the westbound inspection bureau of the trunk lines from Boston, New York, and Philadelphia discovered 270,000 misrepresentations by shippers of the contents of the packages offered to the railroads for

[1] Section two.
[2] Section three.

transportation.[1] Practically every one of these cases, he said, was an intentional inroad upon the railroad revenues. He told of an officer in a hardware association who made a shipment of manufactured brass goods, but who purposely put in each box a single piece of iron pipe in order that he might with some propriety classify it as iron piping. The shipper regarded this as a huge joke, but the joke was on the railroad, which was defrauded in this way of $2.30 for every box shipped. If, then, it is possible to underclassify goods, despite the eternal vigilance of the railroads, how easy it must be with their connivance!

(2) *False Billing.* This is (or was) a very common device, and one exceedingly difficult to detect, if made with the railroad's approval. The weight of the shipment may be wrongly stated, and not checked by the railroad agent. The railroads, to economize in labor, may adopt the practice of counting a certain number of boxes, say of fruit, as equivalent to one hundred pounds, and then allow a favored shipper to include a larger number. They may bill goods as a through shipment entitled to a low rate, and permit it to be unloaded en route without paying the higher rate that applies to the noncompetitive, intermediate point. In the case of some shippers, therefore, personal discrimination may serve as an offset for the local discrimination from which they would otherwise suffer. The railroads may bill goods as for export, at an unusually low rate for the domestic portion of the haul, and permit the shipper to unload the goods en route. A shipment, in fact, may not be billed at all. Commissioner Prouty testified that he knew of a trainload of wheat that was carried from Minneapolis to Chicago for nothing.[2] The railroad company wanted to discriminate in favor of the shipper, but it did not dare pay him a rebate. So it made no record of the trainload, and carried it for nothing.

(3) *Midnight Tariffs.* This arrangement, sometimes called a "flying tariff", was an effective rebating device, and was not unlawful. A railway freight agent wishing to favor a certain shipper agreed to put in force an especially low rate on a given date. The shipper thereupon accumulated a large shipment to be forwarded on that day. The reduction in rates was filed with the Interstate Commerce Commission as required by law, and

[1] *Industrial Commission*, IV, p. 675.
[2] Senate Document no. 243, 59th Cong., 1st Sess., 1906, p. 2912.

the necessary public notice was given.[1] The new rate was open, of course, to any shipper who discovered it, but it was a reasonably safe assumption, in view of the thousands of tariff changes that were made every month, that it would escape undetected by any but the forewarned shipper. In time, of course, other shippers might learn of it, but it was no part of the scheme to allow the reduced rate to remain effective for long. Accordingly, immediately after notice of an intention to reduce the rate had been filed, there would be filed notice of an intention to restore the original rate as soon as the law would permit (ten days was required for an advance). Even, therefore, if competing shippers eventually discovered the rate, it would probably be too late for them to take advantage of it.

(4) *Excessive Payments for the Use of Private Cars.* The railroads own most of the cars that they move, but this is not true of all their cars. Much of the specialized equipment, notably the cars used in the transportation of oil, meat, and fruit, is privately owned. Thus, the Federal Trade Commission found that on December 31, 1917, the five leading meat-packing companies, commonly known as the Big Five, owned 91 per cent of all the beef refrigerator cars in the United States.[2] The remaining cars were owned by private car companies or by slaughterers other than the Big Five; the railroads did not own a single beef car. The concern that owns these private cars pays the railroad the regular rate on the freight shipped in them, but is allowed a rental by the railroad for the use of the cars. The rental payment is usually based upon the number of miles traveled, a common figure being three-fourths of a cent per mile. While payment upon the basis of mileage performance may be entirely proper, it is clear that there is the possibility of abuse. If the payment to the owner of a private car is excessive, the net effect is a discrimination in his favor. By such means rebates have been paid to the Standard Oil Company, to the leading meat-packing companies, and to other concerns. The railroads would like to abolish private cars,[3] but to date they have been unable to do so, because of the certainty that the large shippers would divert their tonnage from any railroad

[1] The act of 1887, as amended in 1889, required three days' notice of a reduction in rates, and ten days' notice of an advance.

[2] *Report on the Meat-Packing Industry*, part I, p. 136.

[3] See *Report of the Interstate Commerce Commission on Discriminations and Monoplies in Coal and Oil*, January 25, 1907, pp. 77–80.

that took such a step. In fairness to the owners of private cars it should be said that the system of private cars originated through the failure of the railroads to supply the specialized equipment that shippers demanded, and that the present arrangement has definite advantages, notably in the possibility of distributing the cars throughout the country as they are needed from season to season. Yet so long as these cars continue to be owned by the shippers rather than by the railroads, there will probably continue to be unjust discrimination between persons. If we really want to abolish the rebating evil, we shall undoubtedly have to abolish private cars.[1] The Interstate Commerce Commission in its investigation of discriminations in coal in 1907 recommended that this step, so far as private coal cars are concerned, be taken at the earliest possible moment. As yet, however, this recommendation has not been acted upon.

(5) *Excessive Allowances to Industrial Railways.* It is not uncommon for manufacturing or mining companies to own several miles of railway track in and about their plant, to facilitate the handling of their product and to bring it to connecting railways. The ownership of this trackage may be vested in a railway company, all the stock of which is held by the manufacturing concern. The miniature railroad, if a common carrier subject to the interstate commerce acts, is entitled to receive a proportion of the through rate on all traffic turned over to connecting railroads. If the miniature railroad receives no larger proportion of the through rate than is fair, there is no objection; but in fact many of these roads—there were 449 of them in 1909[2]—have received very excessive divisions. This is most likely to be the case when the owner of the diminutive railroad is a trust or other large shipper. Thus, the International Harvester Company (the harvester trust), through the Illinois Northern Railway and the Chicago, West Pullman and Southern Railway, operated terminal railroads in the city of Chicago. For the switching services performed by these two tap lines a reasonable compensation would have been $3.50 and $3.00 per car, respectively. In fact, however, they received a division of the through rate amounting

[1] According to the report of the *Joint Commission of Agricultural Inquiry on Transportation* (1922), p. 237, there are 225,724 privately owned freight cars, equal to nearly 9 per cent of the total number of freight cars.

[2] *Annual Report of the Interstate Commerce Commission*, 1910, p. 33.

in some cases to as much as $12 per car. As the Interstate Commerce Commission pointed out in 1904, the excess payment was in essence a rebate to the International Harvester Company.[1] To prevent the employment of such devices the Hepburn Act of 1906 gave the Interstate Commerce Commission authority over industrial railroads, and also authority to determine the proper division of the through rate between the railroads. Armed with such powers the Commission may be able to eliminate this particular rebating device, yet constant vigilance on its part will be necessary.

(6) *Excessive Payments for Supplies.* The railroads purchase an enormous quantity of supplies of one kind or another. If they wish to, they can pay more for these supplies than their market value; and in this way grant what is practically a rebate. Even if they do not wish to, they may be compelled to do so, if the shipper is powerful enough. This fact is brought out by the Report of the Bureau of Corporations on the Petroleum Industry, published in 1907.[2] The railroads then bought practically all their lubricating oil from the Galena-Signal Oil Company; this company, a subsidiary of the Standard Oil Company, controlled at least 95 per cent of the business. The railroads paid varying prices for the same grade of oil, the purchase price apparently being determined in large measure by the degree of dependence of the railroad on the oil trust. Thus, the Pennsylvania Railroad paid only half as much for its oil as some other roads. The favorable price of the Pennsylvania Railroad seems to have been due to the fact that it reached practically all of the independent oil refineries in the east, and could therefore do the Standard Oil Company great injury if the latter saw fit to withdraw its shipments as a means of punishing the railroad for not paying excessive prices for oil. The Pennsylvania had formerly compounded its own oils, and this may have had some influence also. The Bureau of Corporations found that the railroads of the country had paid the Standard Oil Company annually some $2,000,000 more for oil than its fair market price or the market price of competitive oils of equal quality; and that the only reason for such uneconomical buying appeared to be the huge volume of traffic available for distribution by the Standard Oil Company.

(7) *Excessive Allowances for Damages.* If the goods of the

[1] 10 I. C. C. Reports 385–404.

[2] See part II, Prices and Profits, pp. 58–67.

shipper are damaged or lost in transit, the shipper can present a claim for damages exceeding those which he sustained. Or he may present a claim, even though he sustained no damages at all. The railroad, if desirous of granting discrimination, may pay these claims without inquiring into their reasonableness. Excessive allowances for damages and excessive payments for supplies have been termed "smokeless rebates," so difficult is it to uncover them.

(8) *Miscellaneous.* Other devices, to cite but a few more,[1] are: free storage of the shipper's goods, enabling him to save warehouse charges; free cartage, a service not normally included in the freight rate in this country; the milling-in-transit privilege, which allows a manufacturer, say of flour, to bring in his wheat, convert it into flour, and ship it to destination on one through rate, instead of requiring him to pay two local rates, one on wheat, and one on flour, as may be required of a competitor; the payment of large salaries to the railroad traffic agents, on the understanding that the agents will divide their salaries with favored shippers; the extension of credit to certain shippers for unduly long periods; the denial of railroad facilities, especially when the railroad wishes to hamper shippers who may be competing with manufacturing or mining operations conducted by the railroad or its officers; and the unfair distribution of cars, perhaps for the reason mentioned above or perhaps in the interest merely of large, influential shippers. A particularly bad state of affairs on the Pennsylvania Railroad was disclosed in a report of the Interstate Commerce Commission, made in 1907.[2] It was established that division superintendents, trainmasters, and even the assistant to the president had been given large blocks of stock in coal mining companies for nothing or practically nothing in order that these influential officials might use their good offices to see to it that these particular coal companies did not suffer from lack of cars, no matter how serious the shortage. Moreover, the bribe was effective. Thus, during the early part of 1903, there was a period of six weeks in which 379 of the coal mines of the Pennsylvania Railroad received no cars

[1] See Parsons, Frank, *The Heart of the Railroad Problem,* pp. 229–232, for an extended list.

[2] *Report on Discriminations and Monopolies in Coal and Oil,* January 25, 1907.

whatever, though, so far as the evidence showed, not one mine in which an officer of the railroad was financially interested was deprived of car service.

The elimination of these rebating devices, which embraced, as a vice-president of the Atchison, Topeka and Santa Fe testified, "about all the methods that human ingenuity can devise,"[1] is a very difficult matter. The act of 1887 was manifestly inadequate. The Industrial Commission in its review of the evidence presented to it said in 1900 that there was a general consensus of opinion among practically all witnesses, including members of the Interstate Commerce Commission, railway officers, and shippers, that discriminations between individuals still prevailed, perhaps to as great an extent as ever before.[2] Some witnesses, indeed, testified that discriminations were probably greater in 1898 than ever. The magnitude of the evil finally led Congress, spurred on as it was by the railroads, which had come to appreciate the drain on their revenues that rebates involved, to pass the Elkins Act in 1903.

The Elkins Act dealt almost entirely with rebates.[3] It defined rebates in substance as a departure from the published tariffs. Prosecutions for rebating under the earlier legislation had generally been unsuccessful, because the courts had held that it was necessary to prove actual discrimination, that is, that one shipper paid a lower rate than others. But by the Elkins Act it was sufficient to prove that the railroad had charged a rate different from the published rate. The Elkins Act also made the railroad corporation liable, as well as its directors and officers; and it made the acceptor of a rebate guilty equally with the giver. Finally, it conferred jurisdiction upon the federal courts to enjoin any departure from the published tariffs and any discrimination forbidden by law, the injunction to be enforceable upon the shippers as well as upon the railroad. Unfortunately, the penalty of imprisonment was removed in the mistaken notion that it would thereby be made easier to secure the necessary testimony of witnesses. It was thought that witnesses, who would hesitate to give testimony that might send their superiors or associates to jail, would unburden themselves more freely if this contingency were removed. The removal of the penalty of imprisonment was

[1] *Industrial Commission*, IV, p. 493.
[2] Vol. IV, p. 5.
[3] See ch. 12 for a fuller description of the Elkins Act.

later seen to be a mistake, and in the Hepburn Act (1906) the penalty was restored.

The Hepburn Act strengthened still further the law against rebates. It not only restored the penalty of imprisonment, both for railroad officials and shippers, but it made the latter liable to suits for damages equal to three times the value of the favors received. It vested the Interstate Commerce Commission with power over private cars and industrial railways, And it endeavored to force the railroads to divorce themselves from the business of manufacturing or mining articles to be transported over their lines (except timber and articles intended for their own consumption), thus removing the inducement to discriminate against the shippers on their line.

What is the situation as to personal discrimination to-day? No doubt, there are still some rebating devices in use, yet the situation is much improved. The competition among the railroads for traffic is not so keen as it used to be, partly because their plants are more fully utilized than during the earlier and more speculative periods, and therefore the inducement to cut rates is not so great; and partly because of the spread of the combination movement, especially since 1898. The railroad officials have learned also by bitter experience the serious losses to their revenues that rebating entails, and are anxious to blot it out. The moral sense of the shippers has also undoubtedly improved, and many shippers will no longer accept rebates. The railroads and shippers, even if willing to give and to take rebates, have now to deal, moreover, not only with drastic laws forbidding rebates, but with an aroused and intelligent public opinion that sees clearly what is involved. Finally, the provisions of the Esch-Cummins Act of 1920 legalizing combination and pooling when sanctioned by the Interstate Commerce Commission may be expected to reduce the evil of discrimination, by giving the railroads greater power to deal with it. Yet not without constant watchfulness on the part of the authorities will it be possible to prevent the evil from reëmerging in one form or another.

REFERENCES

Brown, H. G.: *Transportation Rates and their Regulation*, ch. 7 (1916).
Noyes, W. C.: *American Railroad Rates*, pp. 99–109, 116–123 (1905).
Parsons, Frank: *The Railways, the Trusts, and the People*, chs. 3–4 (1906).
Ripley, W. Z.: *Railroads: Rates and Regulation*, ch. 6 (1912).

CHAPTER VIII

THE CLASSIFICATION OF FREIGHT

The railroads carry thousands of commodities under widely varying conditions. Obviously it would be impracticable for them to cite a separate rate on each commodity between all the points from and to which it might move. Convenience dictates that the commodities to be carried be assigned to classes, and that the rates between the several stations be quoted for classes of commodities rather than for each commodity separately. It is not possible, however, to assign every commodity to a class. Some commodities, for one reason or another, can not bear as high a rate as the classified traffic can; and these commodities are accorded special rates called "commodity rates." We shall take up first the classified traffic, reserving the commodity tariffs for later treatment.

The process of ascertaining the rate on a particular commodity between two given points involves two separate operations, and the use of two books. The first step is to ascertain the class to which the commodity has been assigned; the second step is to find the rate charged on that class. The book that is used in the first operation is called a Classification; the book used in the second is called a Freight Tariff.

The Classification enumerates every commodity that may move by rail, and assigns each to a class—A, B, C, etc., or 1, 2, 3, etc. It also contains the rules and conditions that govern shipments, including such matters as the minimum weight of a carload, the use of mixed carloads, the responsibility of the railroad for damages, and the manner of packing. The Classification is not prepared by each railroad for its own use, but is prepared by a committee representing the railroads of a given district. The railroads of this district—there have been three leading districts since the late eighties—all use the same classification, though each railroad reserves the right to file what are known as exception sheets. These exception sheets provide that the commodities mentioned therein shall be rated one or more classes lower than

the rating shown in the Classification. A railroad having filed an "exception" to the class tariff, naturally bases its charge on the exception, and not on the Classification.

The Freight Tariff shows the rate in cents per hundred pounds or per ton by classes between the separate stations. The Freight Tariff may be either a local or a joint tariff. The local tariff, which is a large volume prepared by each railroad for its own use, gives the rate in cents per hundred pounds for the various classes between all the stations on the railroad's line; the joint tariff, which is the result of agreement between two or more connecting roads, gives the rate in cents per hundred pounds for the various classes between stations upon the lines of the connecting roads.

This chapter deals primarily with classifications, and only incidentally with rates. We shall discuss the development of classifications, describe the leading classifications (and commodity tariffs), analyze the bases of classification, point out some of the inequalities and discriminations that have arisen in practice, and consider the advisibility of one classification for the entire country.

Development of Classifications

The development of classifications to their present form has taken many years. The early American classifications were modelled upon the canal classifications, and were notable for their simplicity. Thus, even as late as 1855, the classification of the South Carolina Railroad, which was an unusually elaborate document for that period, contained less than 300 items, divided into four major classes. This classification, moreover, was also a freight tariff, the classes and the rates being shown in the same volume. In the course of time, especially during the seventies, an increase in the number of agricultural and manufactured products, and a wider distribution of them resulting from the development of long distance traffic, made necessary the adoption of more elaborate classifications, as well as the separation of the classification and the freight tariff. The elaboration of classifications was carried to such lengths, however, that great confusion resulted. At one time there were as many as 138 separate classifications in trunk line territory alone. Shippers found it difficult to ascertain the freight rates on their own shipments, and almost impossible to ascertain the rates paid by their competitors. Naturally discrim-

inations, both unintentional and deliberate, flourished. By 1887, the date of the passage of the Act to Regulate Commerce, conditions, though somewhat improved, were still intolerable. Practically every railroad had a separate classification; and a number of them had more than one. Some of these classifications applied to traffic moving in one direction, some to traffic moving in the other. It was inevitable that some order be evolved out of this chaos, and during the late eighties there were adopted three major classifications, each applying to a distinct territory, and all of them combined covering the entire country. These three classifications are still in use, though in December, 1919, they were combined under one cover in a volume called Consolidated Freight Classification Number 1.

Description of Leading Classifications

The three leading classifications are known as the Official, the Southern, and the Western. The Official Classification governs the territory north of the Potomac and Ohio rivers, and east of a line running along the eastern shore of Lake Michigan to Chicago, and thence through Joliet, Peoria, Springfield, and St. Louis to Cairo, the meeting place of the Mississippi and Ohio rivers; the Southern Classification governs the territory south of the Potomac and Ohio rivers, and east of the Mississippi River; and the Western Classification governs the territory not embraced in the Official and Southern Classifications. The classifications adopted by the carriers in these three districts have been revised frequently. Thus, the first Consolidated Freight Classification, issued in December, 1919, was the 45th issue of the Official Classification, the 44th of the Southern, and the 56th of the Western. For each of the three territories there is a classification committee, which sits with more or less regularity to consider proposed changes in or additions to the Classification. The decisions of the Western Classification committee are binding upon its member railroads, but the decisions of the Official and Southern Classification committees are not effective until ratified by the railroads of the respective districts. The number of classes, and the number of items, in the three classifications is different, and changes from time to time. Thus, in 1915, the Official Classification contained 14 classes and 5765 items; the Southern Classification contained 13 classes and 4780 items; and the Western Classifi-

cation contained 16 classes, and 6917 items. The increase in the number of items is indicated in the fact that the first Official Classification enumerated approximately 2500 commodities, whereas the 43rd enumerated more than twice that number.

In addition to the three leading classifications, there are a number of state classifications, as, for example, in Alabama, Florida, Georgia, Illinois, Iowa, Nebraska, and Virginia.[1] These classifications are issued by the railroad commissions of the several states, and necessarily apply only to the intrastate traffic of the several jurisdictions. They are designed to make certain modifications in the interest of local constituencies. Their intent is commonly to assist the producers and distributors of a given state to secure the business of that state in competition with the producers and distributors of other states; and their effect is to impose a burden upon interstate commerce. Their existence increases the complexity of railway classification, and has strengthened the demand for an extension of national control over railways, as well as for a uniform classification applying alike to the whole country.

Since there are a number of classifications, how determine which classification applies to a particular shipment? If the shipment is an intrastate one, that is, moves wholly within a state, the state classification, if there is one, usually controls. If there is no state classification—ordinarily there is none—the shipment is controlled by the major classification—Official, Southern, or Western—that applies to that state. If the shipment is an interstate one, but does not pass beyond the boundaries of the particular classification territory in which it originates, the major classification of that territory applies. Finally, if the shipment is interstate, and passes from one classification territory to another, the problem is more complicated; and a positive rule can not be laid down. In practice, the proper procedure is to consult the tariff applicable between the point of origin and destination, since the tariffs always show on their title page the classification that applies in connection therewith.

In addition to the rates on so-called classified traffic, the railroads issue commodity rates. Some articles can not stand even the lowest class rate, and therefore it is necessary to accord them a special rate. These special rates (commodity rates) are not included in the Classification, but are found in Commodity

[1] *Annual Report of the Interstate Commerce Commission*, 1922, p. 51.

Tariffs issued by the railroads independently (or sometimes by groups of them). The Commodity Tariffs may be either local or joint. If the former, they show the rates on specified commodities between stations on the line of the issuing railroad. If the latter, they show the rates on specified commodities between stations on the lines of two or more railroads. Local Commodity Tariffs are issued by each railroad for itself; Joint Commodity Tariffs are issued by agreement among the railroads that are parties thereto. The Commodity Tariffs, it may be observed, specifically enumerate the articles to be carried, whereas the Freight Tariff mentions no articles by name.

Commodity rates are given for a number of reasons. Some articles have such a low value in proportion to bulk that they will not move even short distances unless they are granted very low rates. Some articles may be able to bear a moderately high rate on a short haul, but require a low rate per mile if they are to be moved for long distances. Sometimes water competition is so keen that the railroads find it necessary to make special rates on certain articles to prevent them from going by water. This is especially true of the transcontinental railroads, which meet vigorous competition from the water lines going through the Panama Canal. Sometimes the producers or manufacturers of a given territory are hard put to it to establish their business in competition with the producers of other sections who have years of experience behind them. And even well-established producers may be given commodity rates to enable them to reach out into new markets, and in this way increase the railroad's traffic. For whatever reason granted, commodity rates usually apply only on carload lots; for the railroad could not ordinarily afford to make a special rate on a comparatively small shipment.

Commodity rates are sometimes permanent in character and sometimes temporary. Bulky, cheap articles will move in large volume only if the rate is especially low, and such articles must always be accorded commodity rates (or else very low class rates). The same holds true of a large number of articles when hauled for long distances. However, a commodity rate given to assist a particular producer to get a start may, like a protective tariff to an infant industry, be withdrawn eventually. While such may be the outcome, yet, as with a temporary tariff duty, its withdrawal meets with determined resistance. Despite the resistance,

the number of commodity rates has been reduced on several occasions, yet approximately three-fourths of the traffic on American railroads still moves under special commodity rates. Not three-fourths of the revenue, however, is derived from such traffic; for the rates on the classified traffic are higher.

Commodity rates, it should be noted, do not involve personal discrimination. They are published and filed with the Interstate Commerce Commission; and are available to all shippers located at the point from which they apply. Yet they may involve local discrimination. If they result from water competition, they are likely to result in local discrimination, since water competition is effective at some towns and not at others. If they are given to help the shippers of a certain town or towns to get a foothold, or to extend their operations, they may lead to local discrimination; since correspondingly low rates may not be given to competing localities. However, local discrimination does not always result from commodity rates. Thus, special rates may be granted on articles of low value in proportion to bulk without necessarily leading to local discrimination.

Bases of Classification

As we have seen, some articles are placed in classes, and are charged relatively high rates; while other articles are given commodity rates, that is to say, relatively low rates. What is the reason for this difference in treatment?

The principal reason is that there is a marked difference in the ability of the articles carried by the railroads to stand a high transportation charge. As the reader will recall, the railway industry is subject to the law of joint cost. And when services are supplied under conditions of joint cost, the charges are determined, not by the cost of transportation, but by the demand for the service. The rates must be high enough, of course, to defray the total costs; and the rate on each article must be high enough to defray the special costs definitely attributable to it. But the joint costs (the difference between the total costs and the special costs) will be met by the several articles in varying proportions. Articles of high value will continue to move in large volume at high rates, that is, will make a more than proportionate contribution to the joint costs; and articles of low value will be given low rates because that is all that they can stand. To re-

quire each article to meet not only its own special costs, but also its proportionate share of the joint costs, would result in closing the channels of commerce to many commodities well-nigh indispensable to the public well-being; and by reducing the volume of freight would make necessary higher rates on the remaining traffic. On the other hand, to require no article to meet any more than its special costs and its proportionate share of the joint costs would result in failure for the railroads; for if some commodities can not bear their proportionate share of the joint costs, other commodities will have to bear more than their proportionate share, if the railroads are to realize adequate returns. The result is a classification of freight based on the principle of "charging what the traffic will bear" in the joint cost sense.

Another reason for differentiation in the charges as between articles is a difference in the cost of transportation. It is not possible, to be sure, to ascertain the cost of transporting a particular article for a given distance. Yet we know that it costs more to carry some articles than others; for example, it costs more to carry one hundred tons of feathers than one hundred tons of soft coal. We know also that the cost of carriage for any given article is greater under some conditions than under others; for example, it costs more to carry a carload of tomatoes at high speed that at moderate speed. Even, therefore, if we can not ascertain the actual cost of carriage—as we can not—we can (and must) charge on the transportation of each article a rate that is high enough to cover the *special* costs resulting from its shipment. Classification is appropriately based upon cost, therefore, as well as upon value, the articles that have large *special* costs of carriage being placed in relatively high classes.

Mention may be made of some of the leading cost factors that have to be taken into consideration in framing a Classification.

(1) *Space Occupied.* One ton of tin cans occupies more space than the raw material—tin plates, principally—out of which they are made; and partly for this reason tin cans are classed higher than tin plates. Furniture set up (that is, ready for use) occupies more space than furniture knocked down (that is, not yet assembled); and is thus placed in a higher class. Bird cages are put in class 1, if the parts are nested; but otherwise are put

in triple first-class. Compressed cotton generally takes a lower class than uncompressed cotton, because it occupies less space. The reason greater space increases the cost is obvious. The more space required, the greater the number of cars needed to haul a given tonnage. Additional cars mean a larger investment on which interest must be earned; and they occasion a greater movement expense, and a greater repair expense. An article requiring much space may be assigned to a lower class than an article requiring little space, because it can not bear as high a rate, yet the fact that it does require much space is likely to result in its being placed in a higher class than would be the case otherwise, since the class must be high enough to enable the *special* costs to be covered fully.

(2) *Dead Weight.* Different commodities require different cars. Lumber is shipped in flat cars; coal in gondola cars; wheat in box cars; beef in refrigerator cars; live stock in palace stock cars; and oil in tank cars. These cars vary considerably in weight, a box car of a given capacity weighing considerably more than a flat car. It follows, therefore, that the carriage of some commodities involves a greater amount of dead weight than does the carriage of others; and this is a special cost that must find reflection in the classification, and thus in the rate. Again, some cars are suitable only for the carriage of particular commodities, as, for example, tank cars, refrigerator cars, and live stock cars. Much of this equipment returns to the shipping point empty, and thus the amount of dead weight is increased. Since the special cost of the haul in both directions must be met, the articles that travel under these conditions must be classified high enough to make this possible.

(3) *Risk.* The railroads are liable for the loss of, or damages to, shipments handled by them, unless such loss or damage is caused by an "act of God" (storms, earthquakes, etc.), by legislation, by the act or default of the shipper, by an enemy, or by some condition of this character. Loss or damage may result from theft, wrecks, exposure to rain or sun, rough handling, explosion, and the like. Not all articles are subject to these risks in the same degree. The risk in the transportation of iron ore, coal, lumber, and grain is slight, whereas the risk in the transportation of explosives is great. In the latter case there is not only the possibility that the railroad may have to reimburse the shipper for the loss

of his shipment, but it may have to reimburse other shippers for damages to their shipments, not to mention the replacement of the freight car itself. The risk factor thus plays its part in the classification of freight.

(4) *Direction of Haul.* If the railroad has a preponderance of traffic in one direction, so that many of its cars must return empty, the additional cost of hauling these cars full would ordinarily be slight. It can therefore afford to assign a very low class (or even a commodity rate) to any article that will be induced to move by low rates. To illustrate, at one time the preponderance of traffic on the Great Northern Railway was westbound. Many cars, therefore, returned empty. The officials of the railroad realized that it would cost very little more to haul these cars full than empty, and accordingly they established a low rate (a commodity rate) on lumber, of which there was an abundance in the Northwest. The low eastbound rate was made possible by the low cost. Subsequently the movement of lumber assumed such proportions that the preponderance of traffic was eastbound. When this came about, there was no longer justification for the low rate on lumber from the standpoint of low costs arising out of the direction of the haul. The continuation of the low rates could be justified thereafter, if at all, only by the hardship that the lumber producers of the Northwest would suffer through an upsetting of the prevailing commercial adjustments. However, the hardship to them would presumably be no greater than that suffered by the lumber producers of the Middle West and the South because of the establishment of a low rate on lumber for the special benefit of the producers of the Northwest.

(5) *Miscellaneous.* There are numerous other cost factors, but space is not available to describe them. Without pretending that the list is complete, we may enumerate some of them: volume of tonnage; weight of shipment; regularity of traffic; speed of movement; nature of equipment required; methods of packing; and expense of handling at terminals.

Value and cost of service are thus the bases upon which classifications should be made. They are, moreover, the bases by which classification committees have been largely guided in their work. Nevertheless, numerous inequalities and discriminations have arisen in practice.

Inequalities and Discriminations in Classification

These inequalities and discriminations have arisen in part out of the inherent difficulties of the task. Even a governmental agency, like the Interstate Commerce Commission, if given full authority to frame a classification, would find the subject bristling with difficulties. The number of commodities is legion, and they are carried under widely varying conditions as to speed, quantity, weight, direction of haul, regularity, method of packing, and what not. Yet each of these commodities must be put into one of a limited number of classes, or it must be given a special commodity rate. It is readily apparent that this is a task of the first magnitude. To illustrate, should flour take the same class as wheat, and, if not, how much higher should it be classified? Should wheat for export be classed the same as wheat for domestic consumption? Should cowpeas, which are used to fertilize the soil, be classed as fertilizer or as vegetables? Should celery be classed with peaches and grapes, as it was in fact,[1] or should it be classed with cauliflower and asparagus? Should beans and peas be classed with tomatoes, or should they be classed much higher, as they actually were at one time.[2] Should lumber be classed lower if moving eastbound rather than westbound, and, if so, how much lower? Should the class depend on the method of packing, and, if so, just how much allowance should be made therefor? Suppose one commodity is twice as valuable as another, so that it can stand a higher classification, but suppose also the less valuable commodity is bulky, destructible, moves irregularly and in small volume, and requires special equipment. Which should take the higher class?

The inherent difficulties of classification are well illustrated by the problem of the proper allowance to be made for shipments in large quantities, as, for example, in carload lots. The classifications always place some commodities in lower classes when shipped in carload lots than when not so shipped; and by means of a lower class in effect give a lower rate. That the class (and thus the rate) may properly be less if shipments are made in quantity is generally conceded. The principal reason for this difference in treatment is that the cost of transportation is less. Ob-

[1] 5 I. C. C. Reports 663.
[2] 7 I. C. C. Reports 43.

viously it costs less to handle a shipment that is collected from one shipper at one station on one day and that is turned over to one consignee at one destination, than a shipment that may be collected in small lots from numerous shippers at several stations and delivered piecemeal to numerous shippers at different stations. More specifically, carload lots are classified lower because: (1) the railroad is saved the expense of loading and unloading carload freight (this service is generally performed by the shipper); (2) the proportion of paying freight to tare is greater (the carload minimum for shipments in carload lots is greater than the average load of these same cars when containing less than carload shipments consolidated by the railroad); (3) fewer station facilities are required; and (4) the cost of billing, collection, and adjusting damages is less.

Though it is proper to differentiate between carload and less than carload shipments, such is not the practice as to all commodities. In Western Classification territory—so the chairman of the classification committee estimates—about four-fifths of the commodities enjoy carload ratings. In Official Classification territory the percentage is undoubtedly greater. Why this difference? The principal explanation is that the traffic has attained greater volume in the East than in the West. Yet it is a problem not easy of solution to determine just when a commodity that has not a carload rating becomes entitled to one. Under Western Classification No. 50 birdseed was given a carload rating, while caraway seed was not. The next issue of this classification reversed the position of these commodities, giving caraway seed a carload rating, but denying it to birdseed. Why this change? Generally speaking, a carload rating should be granted on any commodity, so the Interstate Commerce Commission believes, whenever carload quantities are offered for shipment and the public interest requires it.[1]

Having determined what commodities are entitled to carload ratings in the several territories, it remains to determine the proper spread between the rates on carload and less than carload shipments. This is a matter of the greatest importance, since the amount of the spread may well determine the outcome of competition in the field of production and distribution. Illustrating by distribution, goods manufactured in St. Louis may be dis-

[1] 25 I. C. C. Reports 464–465.

tributed on the Pacific Coast in less than carload lots from St. Louis as a center of distribution, or they may be sent to San Francisco in carload lots, and distributed from there in less than carload lots. Which method of distribution will be adopted will depend in large measure on the spread between rates on large shipments and on small. In determining the spread the railroad classification committees (and the Interstate Commerce Commission) should be guided by sound controlling principles. According to the Commission the relation between carload and less than carload ratings should depend, among other factors, on the relative cost of handling, the relative burden upon terminal facilities, and the relative utilization of railway equipment.[1]

Another problem in classification relating to shipments in carloads is the determination of the minimum weight that shall constitute a carload. The railroads naturally prefer high minima, if these do not materially cut down the volume of traffic, since they conduce to a fuller utilization of the car. The more pounds the shipper has to put in the car in order to secure the benefit of carload rates, the larger obviously will be the railroad's revenue figured in cents per hundred pounds hauled. The more complete the utilization, also, the fewer will be the cars required to handle the traffic. As the size of freight cars increases, the carload minima may be expected to increase also, since there is properly a close relation between car capacity and the carload minimum. In general, large shippers prefer a high minimum, because it gives them an advantage over the small shippers; and for the same reason the small shippers oppose it. It is obvious that we have here a matter vitally affecting the national welfare, and the welfare of particular groups. It is proper that the minima should increase in so far as larger cars reduce the cost of transportation, but undue increases in the minima artificially discourage the small shippers, and thus accentuate the movement toward concentration, —a movement that has already assumed huge proportions, and that may, particularly if it reaches the stage of monopoly, affect adversely the welfare of the country.

The second set of inequalities and discriminations has arisen, not out of the inherent difficulties of classification, but out of the conditions under which the classifications (and commodity tariffs) were actually made. As a matter of fact the classifications were

[1] 25 I. C. C. Reports 608.

not made by an impartial government agency, but at first by individual railroads, and later by classification committees, each representing large numbers of railroads. It goes without saying that the railroads within each classification territory had widely divergent interests in the localities and industries of that territory. To evolve a common classification for each territory in the face of these conflicting interests was a difficult task, but through a policy of give and take three such classifications—the Official, the Southern, and the Western—were worked out and agreed upon. The endeavor was made, of course, to frame classifications that reflected the prevailing commercial conditions, yet no one imagined that this object was fully attained. But even if the classifications had been properly adjusted to the needs of the time, the economic and social changes that characterize a dynamic order would have made a revision necessary sooner or later. Yet it was not to be anticipated, bearing in mind the fact that classifications are the product of compromise, that this revision would be made promptly and equitably. Some exercise of governmental authority therefore appeared to be necessary.

In the preceding paragraph we indicated that some governmental control over classification, as well as over rates, was necessary, even on the assumption that the railroads and the classification committees honestly endeavored to establish satisfactory classifications. We did not assume that the classifications were made with scientific precision, nor that discrimination between commodities was entirely eliminated; but we did tacitly assume that such discriminations were removed so far as possible. As a matter of fact, however, this assumption is in some measure unfounded. There are numerous instances of commodity discriminations that are not the natural or logical result of the principle of classification. This is conceded even by the spokesmen for the railroads. Thus, Mr. S. O. Dunn, editor of the Railway Age, cites a number of instances in his book, The American Transportation Question. For example, copper is valuable. At 12½ cents per pound, a 60,000 pound carload is worth $7,500. On proper classification principles copper should be classed relatively high, and therefore charged a relatively high rate. But in fact the rate from Utah and other western points to Omaha was less than the rate on common junk. Why? Largely, Mr. Dunn states, because the principal shippers were such large concerns as the

Amalgamated Copper Company and the American Smelting and Refining Company.[1] Mr. Dunn referred also to the rate on packing house products from the Missouri River to Chicago, which was not only "unfairly discriminatory as compared with the rates on live stock," but also "unfairly low as compared with practically every other rate of the railways making it." [2] This low rate on packing house products, he said, was typical of not a few rates made for the special benefit of large industrial combinations. The Interstate Commerce Commission, referring in 1897 to the assignment of commodities to classes, said, "there are such wide differences in many cases as to lead one to doubt whether present classifications are not more the result of chance than of system." [3] If this was true in 1897, when the modern trust movement was yet to come, how much more true must it have been after 1897, when the trusts, having an enormous volume of traffic at their disposal, brought to bear on the railroads a demand for favoritism in rates that could not well be denied. Recent evidence, indeed, abundantly establishes the fact that numerous articles controlled by trusts were accorded rates that were disproportionately low, compared with rates on articles produced under conditions of competition.

The defects of classifications as evolved by the railroads through compromises, and sometimes with not the best of intentions, point to the necessity of governmental control over classification, as well as over rates. The Act to Regulate Commerce of 1887 did not specifically give the Interstate Commerce Commission authority over classification, yet the Commission believed that this power was given by implication,[4] and for many years exercised it without protest by the railroads. In 1910, by the Mann-Elkins Act, authority over classification was specifically conferred upon the Commission, including, by implication, authority to require the railroads to adopt a uniform classification in place of the three major classifications then in force.

[1] *American Transportation Question* (1912), pp. 64–65.
[2] Ibid., p. 52.
[3] *Annual Report of the Interstate Commerce Commission*, 1897, p. 68.
[4] See *Annual Report of the Interstate Commerce Commission*, 1887, p. 32.

Uniform Classification

A uniform classification, if practicable, would be desirable. If there are several classifications, each with its separate classes, rules, commodity descriptions, packing specifications, and minimum carload weights, there is likely to be confusion and discrimination. There is confusion, because the shippers have difficulty in ascertaining the rates on shipments that move from one classification territory to another, and they may therefore be obliged to pay higher freight charges than they had anticipated. There is confusion, also, because the several classifications may have different rules as to packing, carload minima, etc., differences that are often the result of different theories as to the proper bases of classification, and not of different conditions in the several territories. There is discrimination, because the several classifications do not assign commodities to the same class, and may not have the same rules as to packing, carload minima, etc.; and therefore shippers in different sections can not get into common markets upon equitable terms. Obviously the whole matter would be simplified and improved if the class to which any commodity was assigned were the same, no matter where it originated, and also if the rules as to packing, etc., were the same in all parts of the country. Because of the obvious advantages of a uniform classification the Interstate Commerce Commission and the National Association of Railway Commissioners have long advocated the adoption of such a classification. These governmental agencies have realized fully the difficulties involved, but have been convinced, nevertheless, that the reform was practicable. Such also is the view of many railroad officials. Thus a committee of fifteen, containing five representatives from each of the major classification territories, reported in 1908 that a uniform classification, though impracticable at the time, could ultimately be worked out along satisfactory lines.

The railroads, under pressure from the Interstate Commerce Commission, have made a number of attempts to frame a uniform classification, but without success. Thus, meetings of representatives of the roads east and west of Chicago were held from September, 1887, to July, 1888, for the purpose of merging, if possible, the Official and Western Classifications. These meetings bore no fruit, in part because the western roads wanted low

rates on carload lots, in order to assist western jobbers, while the eastern roads wanted low rates on less than carload lots, in order to assist eastern jobbers; and in part also because the outbreak of a number of rate wars while the meetings were in progress rendered the railroads less willing and less able to make those concessions that were necessarily involved in the framing of a uniform classification. In September, 1888, the House of Representatives took the matter in hand, and passed a resolution authorizing and directing the Interstate Commerce Commission to prescribe a uniform classification for all the roads in the country by January 1, 1889.[1] This resolution was ill-advised, partly because three months was altogether too short a period in which to frame a uniform classification, and partly because the railroad officials, with a full knowledge of local conditions, were in a better position than the Commission to construct a uniform classification. This was the view of the Commission itself, which much preferred to have the railroads prepare their own plan; and therefore the Senate wisely refused to concur in the resolution. The House resolution, however, undoubtedly stimulated the railroads to renewed efforts. In December, 1888, delegates from eight railroad associations covering the entire country convened, and appointed a committee with instructions "to unify as rapidly as possible the several classifications now in use." This committee, of which Mr. J. W. Midgley was chairman, finally agreed in June, 1890, upon a classification, which it recommended for adoption by the railroad associations. The Commission at this time took occasion to affirm its confidence that the day was not far off when one freight classification would cover the entire country. Yet its expectations were not realized. The eastern trunk lines refused to accept the new classification, and the work of two years was apparently wasted. Similar attempts were made in subsequent years, notably in 1908, and though many reforms have been introduced, uniformity of classification has not yet been attained.

The failure to adopt a uniform classification to date is due to the inherent difficulties. It is not believed that these difficulties are insurmountable, yet they are impressive. In the opinion of the Interstate Commerce Commission, expressed in 1888, classification is "as difficult a task as under the ordinary operations of government is likely to be devolved on any person or

[1] *Annual Report of the Interstate Commerce Commission*, 1890, p. 33.

any body of men." The difficulties arise out of the fact that conditions are different in the several sections of the country; and the three major classifications reflect these varying conditions. The same article may appropriately be classed lower in one territory than in another. This article may be closely related to the welfare of the people of a particular area, and the railroads serving this area may grant it low rates to enable it to compete in the markets of the world. On some other railroad such privileged treatment may not be necessary for this commodity, yet may well be for some other article. In a way the situation is much the same as if the several states had authority to impose tariff duties, and should do so on the principle of protecting local industries, as our national government now does for the nation's industries. The comparison may show the weakness of classifications based on such a principle, yet it also shows the practical difficulty of making a change. Business having adjusted itself to the three major classifications, the combination of these three into one is only possible either through a series of compromises that would disturb long established adjustments, or through the multiplication of commodity rates. Suppose an article is quoted fourth class in the Western Classification and sixth class in the Official. If this article must be put in the same class in both sections, a compromise may be made on fifth class. This would mean that the railroads in western territory would charge a lower rate on this article than it can bear (unless the rates per class are revised), and it would mean that the railroads in eastern territory would charge a higher rate on this article than it should be made to bear (otherwise the commodity would presumably have been assigned to a higher class before). A compromise, therefore, is far from satisfactory. Yet such is the only way a uniform classification can be brought about, unless the number of commodity rates is greatly increased to enable the railroads to protect a particular constituency whenever its interests would be adversely affected by a uniform classification. The increase in commodity rates, however, would lead to greater complexity rather than to simplification. The subject thus presents many difficulties.

Despite the difficulties marked progress has been made of late years toward uniformity of classification. In 1919, as stated previously, the three major classifications were brought under one cover in a volume called Consolidated Freight Classification Num-

ber 1. This volume, which displaced the separate issues of the three classification territories, though preserving their identity, showed in parallel columns the class assignment of every article in each of the three major classification territories. Taking certain articles at random, it looked as follows:

Articles	Ratings		
	Official	Southern	Western
Can openers, in barrels or boxes	3	2	2
Matches, in boxes, L. C. L.	1	1	1
Ores—copper, in bags, barrels or boxes, L. C. L.	3	5	4
Rubber—crude, in packages named, C. L., min. wt. 40,000 lbs.	4	3	2

But more important than the bringing of these classifications under one cover was the adoption of practical uniformity in rules, commodity descriptions, packing specifications, and minimum carload weights. Under the old system of classification there was no uniformity as to these matters. Each classification contained a number of rules, but the rules were not always the same in the several territories. What is meant by a rule will be made clear by an illustration. Rule 14 of the Consolidated Freight Classification provides that carload rates apply only when a carload of freight is shipped: (1) from one station; (2) in one car; (3) on one day; (4) by one shipper; (5) for delivery to one consignee; (6) at one destination.[1] Again, each classification described the articles that might be transported, but the descriptions differed, with resulting confusion. Again, each classification contained certain directions as to how the goods should be packed, the class depending on the method of packing, but there was no uniformity as to these requirements. Finally, each classification named the minimum weight of a carload (when a carload rating was allowed), but these minima were often different for the same commodity in the several classification territories. It would not be proper to criticize the classification committees for these differences, for the committees made rules and regulations for application to their own territories; and it was therefore only to be expected that differences would appear. None the less these differences were very confusing to shippers, particularly on inter-

[1] Consolidated Freight Classification Number 1, p. 7.

territory shipments, and they were a frequent source of discrimination. The lack of uniformity in rules, etc., was, in fact, a greater evil than lack of uniformity in ratings (classes); and the adoption in December, 1919, of a consolidated classification that is uniform as to practically all rules, commodity descriptions, packing specifications, and carload minima represents a marked reform in classification practice. Practical uniformity having once been secured, it is to be anticipated that it will be retained. In fact, the Consolidated Classification Committee, created during the period of governmental administration of the railroads, and now a permanent organization consisting of the chairmen of the Official, Southern, and Western Classification committees, has been directed by the Interstate Commerce Commission to maintain such uniformity hereafter.

To complete the task of framing a uniform classification, it remains to secure uniformity as to ratings (classes).[1] In working out uniformity in rules, etc., it was found necessary to make some changes in the ratings, and though this was a secondary consideration, it is true that the Consolidated Classification represents a greater degree of uniformity in this regard than had ever been attained before. The Consolidated Classification Committee has now been instructed by the Interstate Commerce Commission to proceed with the unification of ratings as rapidly as possible, and to see to it meanwhile that no rating which is uniform in all of the territories shall be changed in one unless it is similarly changed in the others. It thus appears that the confidence of the Commission that uniform classification can be achieved is, after the lapse of many years, in process of being justified.

REFERENCES

Brown, H. G.: *Transportation Rates and their Regulation*, ch. 6 (1916).
Clapp, E. J.: *Railway Traffic*, ch. 6 (1918).
Dewsnup, E. R.: *Freight Classification* (1913).
Dunn, S. O.: "Uniform Classification," *Railroad Age Gazette*, vol. 47, pp. 413–415, 462–464, 497–498, 552–554 (1909).
Interstate Commerce Commission Reports, vol. 54, pp. 1–655 (July 3, 1919).
Knoop, Douglas: *Outlines of Railway Economics*, ch. 16 (1913).
Noyes, W. C.: *American Railroad Rates*, ch. 4 (1905).
Ripley, W. Z.: *Railroads: Rates and Regulation*, ch. 9 (1912).
Strombeck, J. F.: *Freight Classification*, ch. 3 (1912).

[1] Complete uniformity involves, of course, the elimination or revision of the state classifications.

CHAPTER IX

RATE SYSTEMS

In this chapter it is proposed to consider some of the leading rate systems of the country. By way of introduction it should be said that rates and rate systems are so definitely the product of compromise and evolution that it is questionable whether it is appropriate to use the word system. Rates have not been made in accordance with a scientific plan, but they have developed by way of adjustment to the prevailing commercial conditions. The fundamental principle by which railroad traffic managers have been guided is that of "charging what the traffic will bear." Yet this principle, though it has much to commend it when used in the joint cost sense (see page 88), has not led to a well ordered rate structure. In accordance with this principle low rates have been granted to towns enjoying the competition of water lines or of rival railroad lines, but in the absence of legislation equally low rates have not been granted to the noncompetitive towns, because this was not necessary. Local discrimination thus characterizes some of the leading rate systems, as we shall see. Again, in accordance with this principle low rates have been granted on long hauls, because of the desire of the railroads to enable their shippers to get into competing markets, and because of the inability of the shippers to do so without favorable rates. The producers of oranges in California wish to sell their product in New York in competition with Florida oranges,—a case of competition of markets. Unless the transcontinental railroads make rates sufficiently low, the California producers will be excluded from the New York market, and the transcontinental railroads will suffer a reduction in the volume of their traffic. To illustrate further, the manufacturers of shoes in Boston compete for the California trade with the manufacturers of shoes in St. Louis. The Boston manufacturers have the benefit of water competition by way of the Panama Canal, and thus are assured of a low rail rate. For so long as the railroads from Boston to California can get a rate that more than covers the extra costs attributable to

shipments of shoes, they will compete for the shoe traffic, and endeavor to prevent it from going by the water lines. Though water competition at St. Louis is less effective than at Boston, the railroads from St. Louis to California must meet the low rate established by the rail line from Boston, if they wish to keep the St. Louis manufacturers of shoes in business. Whenever there exists this competition of markets—and market competition permeates our whole commercial system—the railroad officials claim, with some show of reason, that they do not make the rates, but that the rates are made for them by conditions beyond their control. In such circumstances the simplest compromise between the contending parties is a postage stamp rate,—the same rate no matter how far the shipment (or letter) is carried. This is the explanation, as will be shown in more detail later, of the blanket or postage stamp rates in the transcontinental rate system. However, the distance principle has not always been persistently violated; on the contrary, one of the leading rate systems—the trunk line rate system—was based substantially on the distance principle, and was properly called a rate *system*. Though we have by no means exhausted the applications of the principle of "charging what the traffic will bear," enough has been said, we trust, to make it clear why the rate structures of the country are not more systematic; and we shall now proceed to describe the trunk line rate system, easily the most scientific of the leading rate structures of the country.

Trunk Line Rate System [1]

Trunk line territory, as the term is used in this chapter, embraces, roughly, territory that lies north of the Ohio and Potomac rivers, and east of the Mississippi River, but not including Wisconsin and the upper peninsula of Michigan. This territory, in turn, is subdivided into three rather well-defined traffic territories: (1) New England; (2) the region west of New England and the Atlantic Coast, and east of a line drawn through Buffalo and Pittsburgh; and (3) the region west of this line, and east of the Mississippi River, commonly designated as Central Freight Association territory. The region between New England and

[1] The best account of the trunk line rate system is in Michigan Percentage Cases, 47 I. C. C. Reports 409–459 (1917). See also Ripley, W. Z., *Railroads: Rates and Regulation*, ch. 10.

Central Freight Association territory is often called trunk line territory, but we have elected to use this term in a broader sense to include both of the subdivisions west of New England. When, therefore, it is necessary to refer specifically to the region between New England and Central Freight Association territory, we shall use the expression "eastern trunk line territory."

The greater portion of our description of the trunk line rate system will deal with the through rates on shipments, eastbound and westbound, between Central Freight Association territory and "eastern trunk line territory." Toward the close a brief explanation will be given of the method of making rates on shipments to and from New England.

The characteristic feature of the trunk line rate system was the recognition of distance as the primary factor in rate making. The assumption was that the cost of transportation increases with the distance, though not, of course, in exact proportion thereto. The increase in cost is not exactly proportional to the increase in distance, partly because the terminal expenses (principally loading and unloading costs) are entirely independent of the length of the haul, and partly because the movement expenses are in some measure independent of the length of the haul. Thus, the terminal expenses are no greater for a haul of 200 miles than for one of 100 miles, and the movement expenses are not twice as great. The cost, however, does increase with the distance; and the trunk line rate system, being substantially a distance tariff, was thus based fundamentally upon a recognition of the cost principle. In this system, to be sure, some modifications were made because of the fact that competition was effective at some points and not at others; but in general the rule was observed that the rate on any commodity increased as the haul became longer. The observance of this rule is the more surprising when it is realized that within this territory competition for traffic was unusually keen. It will be well, therefore, to consider how it came about that a distance tariff was adopted by the railroads of this territory.

The trunk line rate system was the outgrowth of a competition for traffic that was so keen as to make some arrangement for holding it within bounds almost a necessity. The Baltimore and Ohio Railroad entered Chicago in 1874. This made the third through trunk line, the other two being the Pennsylvania and the New

York Central. Among these roads (and others) there was the most active competition for traffic, particularly for the eastbound grain traffic, which then constituted the major portion of the eastbound tonnage. The grain traffic in the middle seventies originated for the most part in Central Freight Association territory, and not, as at present, in Western Classification territory. Moreover, the trunk lines originated only a small portion of their grain traffic, most of it being brought to them by independent railroads, running north and south. At the present time the trunk lines have numerous feeders of their own on which they can rely for traffic, but during the seventies this was not the case. At that early date the trunk lines were mostly main stems, dependent on local railroads for much of their freight.

Competition was keen also between the trunk lines (considered as a unit) and the water lines, whether by the Great Lakes and the Erie Canal, or by the Ohio River. Moreover, the situation was aggravated, from the standpoint of the trunk lines, by the activities of the aforementioned independent cross lines. These lines naturally worked, whenever possible, for a long haul to the Lakes or to the Ohio River. If they turned over their freight to a near-by trunk line, they received a relatively small proportion of the through rate, for the basis of division is commonly the distance traveled. If, however, they took their freight to a distant water line, they received, on a mileage basis, a larger proportion of the through rate. To such a basis of division the water lines readily assented, since otherwise traffic from (say) southern Ohio, would have been turned over to the trunk line from southern Ohio to the Atlantic seaboard, and thus have been lost to the water lines. The independent cross lines and the water lines were thus veritable thorns in the sides of the trunk lines, and however much the latter might fight with one another for traffic they were a unit in opposing the diversion of tonnage to the water lines.

The very necessities of the trunk line railroads thus made some understanding imperative. The extension of the Baltimore and Ohio to Chicago in 1874, the year after the outbreak of the severe panic of 1873, led to ruinous rate wars, the outcome of which might well have been insolvency. Could the competition of the water lines (and independent cross lines) be brought under control, and a harmonious policy among the trunk lines themselves be instituted, the depression of the middle seventies might be

weathered. The competition of the railroads with one another and with the water lines also led to especially low rates at those points where competition was present, without corresponding reductions in the local, noncompetitive rates. This discrimination between localities embittered the producers at the noncompetitive points, and led to hostile state legislation. For more reasons than one, therefore, it seemed desirable for the railroads to get together. This was possible, in 1876, so far as the law was concerned, since at that time there was no Interstate Commerce Act regulating the activities of carriers and no Sherman Anti-trust Act forbidding agreements among them.

The trunk line rate system was adopted in April, 1876. After three years' experience it was revised in June, 1879, and despite subsequent modifications it is the same to-day in fundamentals as after the revision of 1879. The system was appropriately called a "percentage system." The underlying principle was that the rates from Chicago to New York—the system applied at first only to eastbound tonnage, but it was soon applied to westbound also—served as the basis, and that all through rates from certain basing points within trunk line territory were fixed at a certain percentage of the Chicago-New York rate. The percentage in each case was determined chiefly by the distance. The matter may be made clear by an illustration.[1] Assume that the rate on a particular class of goods (as contained in the Classification) was 25 cents per hundred pounds from Chicago to New York. The terminal expenses were estimated at 6 cents per hundred pounds. The balance, 19 cents, represented the movement expenses (plus profit, of course) on shipments from Chicago to New York. The distance from Chicago to New York by the most direct railroad being 920 miles,[2] the rate per mile would be two-hundredths of one cent(.02065 cents, to be exact). To determine the rate to New York from any important junction point east of Chicago, the rate per mile was multiplied by the number of miles from that point to New York,[3] and the constant terminal charge (6 cents) was added. For example, from Crestline, Ohio, to New York City by the shortest single line distance was 641 miles. The rate

[1] See 47 I. C. C. Reports 418–419.

[2] 47 I. C. C. Reports 417.

[3] The mileage employed was not always the exact mileage; sometimes an arbitrary mileage was used. In so far as this was the case the rates did not conform exactly to distance.

from Crestline to New York was, therefore, 19.2 cents ($641 \times .02065 = 13.2$ plus $6.0 = 19.2$). Since 19.2 cents is nearly 77 per cent of 25 cents, Crestline took 77 per cent of the Chicago-New York rate, and thus fell within the 77 per cent zone. In a similar way the rate (and zone) for every other important junction point in Central Freight Association territory to New York was computed. Points in trunk line territory located west of Chicago naturally took higher rates than the Chicago-New York rate, in some cases as much as 125 per cent of the base rate. Subsequently the rates applied at junction points were extended to adjacent noncompetitive points; and thereby was constituted a number of rate groups, frequently of considerable size.[1] Within these rate groups distance was of course ignored on through shipments in trunk line territory; that is, the rate from any town within a particular rate group was the same as the rate from every other town within that group, irrespective of the distance of the several towns from destination.

The foregoing description has dealt only with the method of determining the rates from Central Freight Association territory to New York City, but the percentage system applied likewise to all other points in "eastern trunk line territory" (and, of course, westbound from points in "eastern trunk line territory" to points in Central Freight Association territory). For example, the rate from Columbus, Ohio (in Central Freight Association territory) to Albany, New York (in "eastern trunk line territory") was computed by multiplying the Columbus-New York percentage (77) of the Chicago-New York rate (25 cents) by the ratio of the Columbus-Albany distance to the Columbus-New York distance (96 per cent). To be concrete, the rate from Columbus to Albany was 96 per cent of 77 per cent of 25 cents, or 18.48 cents. It should be borne in mind, however, that the rate percentages for the initial western points applied to a relatively broad zone, and were not determined for each place separately. Thus, all points within the 72-78 per cent zone took the same rate to Albany, despite considerable variations in their nearness to Albany. The rates to Baltimore and Philadelphia, however, were not determined in the foregoing manner. As will be explained shortly, these cities were accorded a fixed differential under the

[1] Maps showing these rate groups may be found in 47 I. C. C. Reports 420; and Ripley, W. Z., *Railroads: Rates and Regulation*, p. 364.

New York rate, the differential being set in 1877 at three cents for Baltimore and at two cents for Philadelphia.

The adoption of a distance tariff in trunk line territory greatly relieved the competitive situation. The trunk lines no longer competed with one another for traffic at cut rates, for the rates were fixed at a definite percentage of the Chicago-New York rate. The rate from Chicago to New York might be reduced from time to time to meet water competition, but this led to a proportionate reduction in all intermediate rates; and relativity was thus preserved. The new system obviously discouraged roundabout transportation. Prior to its adoption it had often proved profitable for the shipper to send his goods to destination by some roundabout line, because of the lower rate that he could secure in this way. Such traffic was just so much extra business for the roundabout line, and it could therefore be taken at a low rate, at any rate, in fact, that slightly exceeded the "extra costs" of the shipment. To such competition the trunk lines had been parties, because of their desire for more tonnage, but as a whole they had lost more revenue because of it than they had gained. Under a distance tariff, however, the rate by the roundabout route could not be less than by the direct route, and therefore uneconomic transportation was discouraged. This argument would not be sound, so far as the independent cross lines were concerned, if they refused to abide by the distance tariff, and persisted in taking their traffic to the water lines. Yet the trunk lines compelled the cross lines to accept the plan by threatening to refuse to turn westbound shipments over to them unless the latter reciprocated with eastbound grain shipments. The cross lines fared very badly under the new plan, and many of them subsequently failed. Eventually most of them were absorbed by the east and west trunk lines. The plan was also bitterly opposed by the lake and river cities, but they could count on little traffic except such as was brought to them by an originating rail carrier, and their protests consequently proved unavailing. It is to be deplored that certain concerns and localities had to suffer hardship under the new scheme, but these are part of the "pains of progress." The distance tariff resulted in a more economical routing of freight and in a marked reduction of local discrimination; and there can be no doubt that, socially viewed, it represented a step forward.

The distance tariff had a further merit, in that it helped to

settle the controversy between the trunk lines as to the proper differentials, if any, to be allowed the eastern seaports. The Baltimore and Ohio Railroad, with a special interest in the city of Baltimore, had long claimed that Baltimore was entitled to a lower rate than Philadelphia and New York. Its claim was based partly on the fact that the distance from Chicago to Baltimore was less than to New York; and partly on the fact that lower rail rates to Baltimore were necessary to offset higher ocean rates from Baltimore, if the Baltimore and Ohio Railroad was to be placed in a position to get its fair share of shipments for export through eastern seaports. For much the same reasons, the Pennsylvania Railroad had claimed that Philadelphia was entitled to a differential under the New York rate. The trunk line rate system paved the way for the settlement of this controversy. This system being based on distance, the logical solution was for Baltimore to be granted a differential under Philadelphia, and for Philadelphia to be granted a differential under New York. These differentials were fixed by agreement in April, 1877, at three cents per hundred pounds for Baltimore and two cents for Philadelphia, the differential in favor of Baltimore as compared with Philadelphia being therefore one cent. The differentials applied to all classes and commodities. From time to time the differentials were criticised, particularly by New York.[1] It was claimed, for example, that freight rates had declined, while the differential had not, and therefore the differential had become relatively greater, to the detriment of New York. To meet this criticism, which was a valid one, the differentials on export grain were cut in half in 1899, and on export iron and steel in 1904, but the domestic differentials on these articles were not affected. Even this adjustment was complained of, but in 1905 the Interstate Commerce Commission in the capacity of an arbitrator approved of the prevailing differentials, with relatively unimportant exceptions.[2] The controversy was reopened from time to time, and it is clear, therefore, that the differentials did not give complete satisfaction,[3]

[1] Also by Boston, which took the same rates as New York on export traffic, though higher rates on domestic traffic.

[2] 11 I. C. C. Reports 13. The Commission's decision dealt only with the export differentials, and not with the differentials on domestic traffic.

[3] Commissioner Clements, of the Interstate Commerce Commission, said in 1905, "the expectation of putting these questions to ultimate rest could spring only from a Utopian dream." 11 I. C. C. Reports 81.

yet there can be no doubt that the adoption of the trunk line rate system, based substantially on distance, contributed greatly toward preventing the controversy from leading to open warfare among the contending parties. And if relative stability of rates is desirable, as it would appear to be, this must be regarded as a strong argument on behalf of the trunk line rate system.

The trunk line rate system, it should be noted, was not as mathematically precise as the foregoing account would imply. Great pressure was brought to bear by special interests—railways, cities, and shippers—and as a result there were numerous adjustments. One set of adjustments resulted from the competition of the north and south lines. The competition of these roads was rendered much less effective, as already pointed out, by the establishment of rates based on the shortest single line distance to New York, for these roads could no longer get tonnage by accepting a rate less than that prescribed by the distance principle. Yet it was still possible for them to compete for traffic at the established rate between two given points. Thus, the rate from Columbus, Ohio, to New York City being established (by distance), a north and south road connecting Columbus and Marion, Ohio, could, if Columbus and Marion took the same rate to New York, bring traffic south from Marion to Columbus, and deliver it to the trunk line connecting Columbus with New York. This was roundabout transportation, to be sure, and was uneconomical; but it was possible if the trunk line from Columbus to New York was willing to allow the north and south line a sufficient proportion of the through rate. If, however, the traffic moved from Marion to New York direct by an east and west railroad, the north and south line received nothing at all. The north and south lines demanded, with success, that they be allowed to bring freight south to the southern trunk lines, and north to the northern trunk lines. Yet it is obvious that a north and south road could not "work its lines in both directions" unless the towns along its route were in the same rate zone. If Marion were in a 77 per cent rate zone and Columbus in an 80 per cent rate zone, a shipment from Marion to New York via Columbus would take a higher rate than if it went direct, and accordingly shipments via Columbus would be unprofitable. It therefore came about, through the insistence of the cross lines, that the boundary of rate zones often lay just to the west of the north and south lines. For example, though

Marion is slightly west of Columbus it took (in 1917) the same rate as Columbus, the western boundary of the 80 per cent zone lying just to the west of the railroad connecting Marion and Columbus. Just beyond this railroad there begins a higher rate zone, higher, as it should be, because the further west one goes, the further distant is New York City. The rate structure, therefore, was not based exactly on distance, though distance was the primary factor.

Another set of adjustments resulted from the influence of large cities, served by two or more carriers. The influential interests of a large city might be able to keep the rates to the East lower than they would have been if constructed strictly on a mileage basis. It thus happened frequently that the transition to a higher rate zone began just west of the large cities. For example, Detroit (in 1917) was in the 78 per cent zone, and towns just to the west took a higher percentage on shipments to the East.[1] As Professor Ripley says, "each zone level is of necessity an average of a theoretic constantly rising scale from east to west." If, therefore, some towns were placed in a somewhat lower rate zone than strict adherence to the distance principle warranted, certain other towns had to be placed in a somewhat higher rate zone than this principle warranted.

The trunk line rate system was thus modified from time to time. To give a further illustration, prior to 1887 the long and short haul principle was not always observed. This principle—embodied in federal statute in the Act to Regulate Commerce of 1887—is that the rate for a short haul should not be higher than the rate for a longer haul over the same line, in the same direction, the short haul being included in the longer. Upon the passage of this law (in 1887) the railroads undertook a general revision of their tariffs, and as a result the long and short haul clause was applied, "not alone as between various points on the *same* line, but also as between points equally distant from a common destination on *different* roads."[2] In 1896, again, a further revision was made, but notwithstanding the fact that these changes made the relationship between rates and mileage less close than theretofore, the long and short haul principle continued to be observed on all interstate traffic.

[1] See map in 47 I. C. C. Reports 420.

[2] Ripley, W. Z., *Railroads: Rates and Regulation*, p. 355.

The trunk line rate system has served its purpose well. Through its use it has been possible to attain a degree of stability of rates that would have seemed impossible in the early seventies. And whatever may be the merits of rapidly changing rates to meet changing competitive conditions and to "keep everyone in business," stable rates, on which shippers can rely, are equally, if not more, beneficial. The scheme, therefore, which applied at first only to the "classified" tonnage, was soon extended to the commodity traffic, both eastbound and westbound.

We turn now to a brief description of the method of making rates on shipments to and from New England. On eastbound shipments the rate from any given town in Central Freight Association territory is generally the same to every town in New England, whether in western Connecticut or eastern Massachusetts. The rate, moreover, is a fixed differential above the rate to New York City. On westbound shipments the rate to any given point in Central Freight Association territory is the same from all New England towns, whether the traffic originates in western Connecticut or eastern Massachusetts; and it is the same, moreover, as the rate from New York City. New England is given as low a rate as New York City on westbound traffic in order that New England manufacturers may market their products in the West in competition with producers who are usually nearer the raw materials, for without such an adjustment of rates New England would decline in prosperity, and the New England railroads would not have a sufficient volume of traffic. The blanketing of rates to and from New England has had the effect of decentralizing industry in that section. The rates are no lower to the centers of population than to the small towns, and as a result factories are to be found scattered through the New England states.

Southern Rate System

The characteristic feature of the rate system in southern territory—the region east of the Mississippi River and south of trunk line territory—was, until quite recent years, the violation of the distance principle of rate making. In this territory the long and short haul principle was persistently (though not universally) ignored, in marked contrast to the situation in trunk line territory. Yet the failure to give due effect to distance in the South

was not entirely without justification. This is indicated in the fact that the Mann-Elkins Act of 1910 forbade the railroads to depart from the long and short haul clause without receiving the permission of the Interstate Commerce Commission, and the Commission in certain circumstances granted this permission, not without cause, it may be fairly assumed. What the special considerations were that influenced the Commission in granting this permission will appear in due course.

The southern rate system was commonly called a "basing point system." This system applied particularly, though by no means wholly, to the external trade of the South, that is, to shipments between the South and the other leading sections of the country, and between the South and foreign countries. Under this system certain towns were made basing points, and given low rates; and the rates to the other towns were generally the sum of the rate from the point of origin to the nearest basing point plus the rate from the basing point to destination. For example, in the famous Alabama Midland case [1] it was shown that shipments from Atlantic seaports (New York, Baltimore, Norfolk, Charleston, Savannah, etc.) to Montgomery, Alabama, if routed by the Alabama Midland Railroad, passed en route through Troy, Alabama, and yet the rate to Troy was higher than to Montgomery. The reason was that Montgomery was a basing point, and Troy was not. The rate to Montgomery was a through rate, and was fairly low. The rate to Troy, however, was the sum of a through rate (New York to Montgomery) and of a local rate (Montgomery to Troy), and was thus relatively high. The discrimination against Troy (local discrimination) was increased also by the fact that the local rate from Montgomery to Troy was high, as is characteristic of local rates in the South. It may be observed that the rate from New York to Troy was based on the New York-Montgomery rate, because Montgomery, though fifty-two miles to the northwest of Troy, was the nearest basing point. Had there been a basing point near to Troy and to the eastward, the rate to Troy could have been based on the nearer basing point. We say could rather than would, because this basing point to the east of Troy may quite possibly, in accordance with a common practice in rate making, have been grouped with Montgomery (and other towns), and have taken the same rate as Montgomery. The shippers at

[1] See p. 228.

Troy might not object to paying a higher rate than that paid by the basing point to the east; for Troy, being farther from New York than this basing point, would naturally take a higher rate. Yet they felt aggrieved that they had to pay a higher rate than was charged on shipments to Montgomery *through* Troy; and they might, therefore, expect redress unless there were special reasons for favoring Montgomery.

The principal reason why certain towns, of which Montgomery serves as an example, were made basing points and were charged low rates, and why other towns were not made basing points and were charged high rates, was because there was competition at some towns and not at others. This competition was of two kinds, competition of the railways with the water lines, and competition of the railways with one another.

Water competition has had a far-reaching effect upon the rate structure of the southern states. The Interstate Commerce Commission said in 1914 that the rates in this territory were "probably affected by water competition to a greater degree than in any other large section of the country." [1] The territory is bounded on all four sides by navigable waters, and on the north also by the trunk line railroads, which enjoy high traffic density and are able to charge relatively low rates. The territory is pierced also by numerous navigable streams, which originate well in the interior, and which flow into the Ocean, the Gulf, and the Mississippi and Ohio rivers. The railways when first constructed in this territory were obliged to make their rates low enough at the points served by water lines to compete for the traffic, and they could not afford to make equally low rates to the noncompetitive points. And though marked improvements in railway operation rendered water competition less effective than formerly, it continued true that the competition of certain water routes, notably those operating along the Atlantic Coast and the Gulf of Mexico, created conditions beyond the railroads' control. The railroads could not afford to relinquish the competitive traffic to the water lines, so long as it made some contribution to the fixed expenses. Moreover, they could not always afford to reduce the rates at the competitive points. The result would have been a serious loss in their revenues, and in some cases insolvency.[2]

[1] *Annual Report of the Interstate Commerce Commission*, 1914, part I, p. 20.
[2] Compare p. 165.

This was particularly true in the South because of the paucity of local traffic; the proportion of local traffic to through traffic in the South was much less than in trunk line territory. Unless, therefore, the railways could acquire control of the water companies or could throttle their competition by one device or another, they had to meet the low rates compelled by water competition. They did so by making those towns at which this competition was effective "basing points," to which low rates were given; and they commonly (though not universally) charged the noncompetitive towns the rate to the nearest basing point plus the local from the basing point to destination. Such considerations explain why Montgomery was made a basing point, and Troy was not. Of course, water competition might in time cease to be effective at a basing point, but a city having once been made a basing point and its trade adjusted thereto, the railroad hesitated—and properly—to upset the prevailing adjustment.

The competition of railroad and water lines was not alone responsible for the establishment of basing points. A number of basing points owe their origin merely to railway competition, though not all towns that had railway competition were made basing points. As explained in the chapter on Local Discrimination the competition of railways commonly causes rates to be low at those places that are served by two or more lines. Thus, Atlanta, Georgia, and Birmingham, Alabama, are railroad centers not blessed with water competition. Yet the importance of these cities and the fact that they were served by several carriers caused them to be made basing points. Many other towns in the South, not nearly as important as these two, were made basing points because of the presence of railway competition. It is difficult to justify the local discrimination that arises in this way. As stated earlier, it is easy to explain why railroad competition results in local discrimination, but explanation is not justification. The railways as a whole do not gain by local discrimination, and since their activities are fully controlled by the Interstate Commerce Commission, it is possible to correct local discrimination resulting merely from railway competition, as it is not possible to the same extent when local discrimination results from the competition of carriers not under the Commission's control.

There is still another group of basing points. Some towns were made basing points as the result of an arbitrary decision on

the part of the railway officials. These towns were made basing points because they demanded rates that would enable them to do business in competition with neighboring basing points; and because they were sufficiently large to bring to bear on the railroad officials the necessary pressure. Thus, at one time Cordele, Georgia, was not a basing point because it was not a sufficiently large distributing point, and it was not such a distributing point because it was not a basing point.[1] Later Cordele became a basing point, because one railroad decided to make it such, and thereupon its decision was accepted by the other road. For local discrimination resulting from arbitrary decisions there is no excuse whatever, and the government should intervene, whenever necessary, to effect its elimination.

The basing point system, as we have said, applied especially to the external trade of the South. In special justification of this system in its relation to the external trade, it has been argued that the railroads had to make particularly low rates to certain distributing centers to enable them to compete with the large distributing centers of the East and West. Thus, unless there was a low rate on shipments from New York to Atlanta, the jobbers of Atlanta would not be able to distribute these goods in the surrounding territory in competition with New York jobbers shipping direct to destination. In analyzing this argument we may make two assumptions, one the opposite of the other: (1) that the goods shipped from New York to Atlanta for distribution in the vicinity move on carload lot rates; (2) that they do *not* move on carload lot rates.

As to (1), if the goods produced in New York and to be distributed in Georgia are accorded a carload lot rating, and if this carload rate is as much below the less than carload rate as the lower cost of shipping in carloads would justify, then the Atlanta jobbers, even without favoritism in rates, can compete with the New York jobbers in distribution in southern territory to the extent that is desirable from the standpoint of the national economy. Assuming that the carload and the less than carload rates are properly adjusted to each other on the basis of the relative cost of transportation, a retailer in (say) Duluth, Georgia, will buy from an Atlanta jobber if the rate on carload lots from New York to Atlanta plus the local rate on less than carload lots from At-

[1] See 6 I. C. C. Reports 358.

lanta to Duluth is lower than the rate on less than carload lots from New York to Duluth (the town of Duluth is too small to buy from New York jobbers in carload lots). If the contrary is true, the Duluth retailer will buy direct from the New York jobber, and it would promote economical distribution if he should do so. If it be objected that this will be cold comfort to the Atlanta jobbers, it may be replied that it is precisely the merit of federal control over railway rates that local welfare can thereby be made subordinate to national welfare; and national welfare clearly demands the most economical system of distributing goods.

If we assume (2) that the goods to be shipped from New York to Atlanta do *not* move on carload lot rates, because they do not move in sufficient volume to justify such rates, we arrive at the same conclusion. If it actually costs less to ship the goods from New York direct to Duluth than it costs to break bulk at Atlanta and to redistribute from Atlanta to Duluth as required from time to time, then it were better that Atlanta be not favored in such manner as to enable it to take the business away from the New York jobbers. If Atlanta jobbers do not have the benefit of carload lot rates, they will quite possibly need low rates to Atlanta (as compared with the rates to Duluth), if they are to compete with New York jobbers, but viewed from the standpoint of the national welfare, it is quite immaterial whether the Atlanta jobbers *need* these rates or not. What is important, obviously, is the establishment of rates that will promote the most effective distribution of the supply of commodities. If this means that distribution in the South is best made from New York as a center, well and good;[1] if from Atlanta, equally well and good.

Coming to local rates within the South, these are based in large measure on distance, except where there are competitive or other conditions that interfere. Many of these rates, being intrastate rates, are fixed by the railroad commissions of the several states. The local rates, though based on distance, are unfortunately very high. This results in part from the relatively thin settlement, the density of population being much less than in trunk line territory. As a result trainloads are rather small, and the cost of operation is relatively high. It results, also, from the fact that much of the traffic of the southern railroads is through traffic, for

[1] Unless indeed the evils of urban congestion at New York City are so great as to cause social considerations to outweigh strictly economic considerations.

example, cotton moving to the East and to foreign countries. This through traffic is carried under highly competitive conditions at comparatively low rates. The local rates may be no higher because the competitive traffic is taken at low rates, rather than abandoned to the water lines, but in so far as low rates on competitive traffic are due merely to the competition of railway lines, —a competition that can be checked by the Interstate Commerce Commission—, the local rates are made higher because the competitive traffic fails to bear its fair share of the costs of transportation. And it is the high local rates that give rise to the most dissatisfaction in the South. Probably in the past it would have been impossible for all of the railways to have reduced their local rates to the level of the rates on competitive traffic, as was done in trunk line territory where the local traffic was large and profitable. Yet conditions in this regard are improving in the South. Manufactures are developing rapidly, and a more diversified agriculture is being adopted. The South is becoming more self-sufficient, and local traffic more important. The conditions are thus favorable for a greater observance of the distance principle, and for a lessening of the burden of local discrimination.

There are other features of the rate system in the South that might be described. There is, for example, the discrimination formerly practiced against cities in the Central West in favor in those along the Atlantic Coast [1]—a discrimination that was particularly great on manufactures and high grade freight. This discrimination resulted from the competition of the coastwise steamers, which kept the charges of the all-rail lines down to the charges of the combined water-and-rail lines, at least on those commodities that could move by water, and in the transportation of which speed was not important. There is, also, the important part played in the southern rate structure by the city of Atlanta, Georgia, from which city the principal railroads are "radially distributed outward like the spokes of a wheel." [2] Yet it is no part of this book to give an exhaustive account of the various rate systems; in a work of this nature this would obviously be impracticable.

In conclusion, attention may be directed to the revision of the

[1] See on this topic 6 I. C. C. Reports 195–256.

[2] On this topic see Johnson, E. R. and Huebner, G. G., *Railroad Traffic and Rates*, vol. I, pp. 418–425.

southern rate system, particularly the basing point system, that has been, and is being, made under the orders of the Interstate Commerce Commission. So far as federal legislation is concerned, no fundamental change in this sytem was compelled by statute until the passage of the Mann-Elkins Act in 1910. The Act to Regulate Commerce of 1887 by section four made it unlawful for any railroad to charge more, "*under substantially similar circumstances and conditions,*" for a shorter than for a longer haul over the same line, in the same direction, the shorter haul being included within the longer. This prohibition was not absolute, however, since the Interstate Commerce Commission was empowered to permit departures from it in special cases. The Commission permitted the railroads to depart from the long and short haul clause, as it was called, when there was water competition at the more distant point and under certain other conditions, but it refused to recognize railway competition at the more distant point as a valid excuse for departing from the clause. The Supreme Court, however, in the Alabama Midland case (1897) held that railway competition at the more distant point created such a dissimilarity of circumstances and conditions as would relieve the railroad from the prohibitions of the clause.[1] Since it was principally water competition and railway competition that caused rates to the more distant points to be lower than to the nearer points, this section of the act became practically inoperative. In the Mann-Elkins Act of 1910 Congress eliminated the words "under substantially similar circumstances and conditions," and thereafter the approval of the Commission was a prerequisite to any departure from the long and short haul principle. However, no rates lawfully existing at the time of the passage of the Mann-Elkins Act were required to be changed by reason of these provisions until the Commission had passed upon such applications as the railroads made for authority to be relieved from the prohibitions of the long and short haul clause.

The Commission dealt with this subject in 1914 in an elaborate decision, entitled Fourth Section Violations in the Southeast.[2] The principle adopted by the Commission was to allow the railroads to charge lower rates to the more distant points than to the

[1] See p. 228.

[2] 30 I. C. C. Reports 153–336. A summary is in pp. 153–155. See also 32 I. C. C. Reports 61–84.

intermediate points when it was established: (1) that the lower rates to the more distant points were necessitated by water competition, actual or potential; (2) that these rates, though less than reasonable and compensatory rates, nevertheless yielded to the rail carriers some profit over and above the actual cost of handling; and (3) that the rates to the intermediate points were not unreasonable.[1] The Commission thus recognized the force of water competition, which was beyond its control, but not the force of railway competition, which was under its control. The Commission prior to the rendering of its decision made an investigation to determine whether it would be possible to require the railroads to reduce the rates to intermediate points to the level of the low rates compelled by water competition, but it found that such a rigid enforcement of the long and short haul clause would have a disastrous effect on the revenues of the railroads. It was therefore obliged to decide each case on its merits, following, however, the principles above enumerated.

The order of the Commission, to cite but a few of its findings, granted the railroads authority to charge lower rates from New York City and related points to South Atlantic and Gulf ports than to intermediate stations, and lower rates from Ohio River crossings to New Orleans and other Mississippi River crossings than to intermediate stations. However, it denied authority to charge lower rates from Cincinnati or Louisville to Atlanta, Birmingham, etc., than to intermediate points, and lower rates from New Orleans to Atlanta, Birmingham, etc., than to intermediate points. The railroads to obey these orders found it necessary to make a comprehensive readjustment of rates, a readjustment that affected practically all the interstate tariffs in the entire territory. The Commission therefore extended the effective date of its order to January 1, 1916. On that date new class rates conforming to the order of the Commission were published; even but after that date revisions in the commodity rates continued to be made.

The Esch-Cummins Act of 1920 made further changes in the long and short haul clause. It amended section four to provide that the Commission in authorizing lower rates to a more distant point than to a nearer point should not permit any rate to the more distant point that was not "reasonably compensatory," and

[1] See *Annual Report of the Interstate Commerce Commission*, 1914, part I, p. 20.

should not permit any lower rate to the more distant point "on account of merely potential water competition not actually in existence." This action of Congress bespoke the determination of the people, acting through their representatives, to give greater regard to the factor of distance. Accordingly the Interstate Commerce Commission in a series of decisions has denied to the railroads permission to charge more to the intermediate points than to the more distant, competitive points.[1] These decisions will necessitate a radical revision of the southern rate structure; and it may be expected that eventually there will be eliminated in this territory practically all departures from the long and short haul clause not enforced by actual water competition.[2] This, it may be added, is a consummation ardently to be desired.

Transcontinental Rate System

The transcontinental rate system has undergone frequent revision, in striking contrast to the trunk line rate system. However, we do not propose to discuss in detail the changes that have been made in this system from time to time. It is our purpose merely to describe its characteristic features as it was developed by the carriers under competitive conditions without effective governmental interference; and to indicate the nature of the revision required by the Interstate Commerce Commission after the Mann-Elkins Act of 1910 made it illegal for the railroads to depart from the long and short haul clause without the consent of the Commission. As with the other rate systems, no attempt will be made to describe the transcontinental rate structure exhaustively; it must suffice to point out its outstanding characteristics.

The characteristic features of the transcontinental rate system as it was evolved by the carriers without effective governmental interference were: (1) the blanketing of the territory east of the Missouri River on shipments to the Pacific Coast, by which is meant the charging of the same rate to the Coast terminals, no matter at what point the shipment originated, whether at New York City or at Chicago (or even Omaha); (2) the discrimination against the so-called "intermediate points," resulting from the

[1] See 61 I. C. C. Reports 308–338 (April 12, 1921); 64 I. C. C. Reports 107–135 (October 10, 1921); and 64 I. C. C. Reports 306–346 (November 15, 1921).

[2] See *Annual Report of the Interstate Commerce Commission*, 1922, p. 49.

fact that rates to these points (Reno, Denver, and Spokane, for example) were determined by adding to the rate to the Pacific Coast the local rate from the Pacific Coast eastward to destination, say to Reno.

(1) The blanketing of rates. It is difficult to generalize with regard to the blanket or postage stamp rate system in transcontinental territory, because this system has been changed in certain respects from time to time. Yet it is substantially correct to say that under this system the rates to the "Pacific Coast terminals" were the same from all points on or east of the Missouri River, whether the shipment originated at Omaha or as far east as New York City.[1] In 1910 there were 152 of these coast terminals, 97 of them being in the state of California.[2] The railroads decided more or less arbitrarily what towns should be designated as coast terminals, but the towns designated were almost always located either upon the ocean or upon bays and rivers connected with the ocean. Among the leading coast terminals were San Diego, Los Angeles, San José, Stockton, San Francisco, Oakland, Sacramento, Portland, Tacoma, and Seattle. Generally speaking, the blanket system applied to both class and commodity rates, though there were exceptions as to both kinds of rates. Thus, in 1902 in the well-known Business Men's League case the Interstate Commerce Commission found that the rate from New York to San Francisco was the same as from St. Louis to San Francisco on all classes, except that on class E the rate from the Missouri River was 5 cents below the rate from the Mississippi River and 10 cents below the rate from points east of the Mississippi, and except further that on classes D and 5 the rate from the Missouri River was 5 cents below the rate from the Mississippi River and all points east.[3] In the even more famous Spokane case the Commission found in 1910 that while transcontinental *commodity* rates as a rule were blanketed to Pacific Coast terminals from all points on or east of the Missouri River, the rate was occasionally lower from the Missouri River than from the Atlantic Coast, and sometimes lower from Chicago or Pittsburgh than from the Atlantic Coast, but in no case was it lower from the Atlantic Coast

[1] This system did not apply to shipments from some of the southeastern states. 19 I. C. C. Reports 238.

[2] 19 I. C. C. Reports 240.

[3] 9 I. C. C. Reports 323.

than from the Missouri River or Chicago.[1] On shipments from the east to the Pacific Coast the commodity rates are much the more important; only a small portion of the tonnage moves on class rates. One reason for this is that a large portion of the traffic to the Pacific Coast is subject to water competition, and the railroads to get their share of this traffic must quote low commodity rates. Another reason is that the hauls are long, and much of the traffic can not bear high class rates. Though the blanket rates generally applied only from points on or east of the Missouri River, sometimes they extended as far west as Denver and the so-called Colorado common points. This vast zone, reaching from the Atlantic Coast to the Rocky Mountains, a distance of over 2000 miles, within which practically uniform rates to the Pacific Coast terminals prevailed, the Commission found to be almost without parallel in the railroad world.

The foregoing discussion has dealt solely with westbound rates. The blanket rate system applied also to eastbound shipments, though by no means to the same degree. Thus, on a number of commodities the eastbound rates from the Pacific Coast terminals were the same to all points east of the Missouri River, and on a greater number the same to all points east of the Mississippi River. On California citrus fruits, indeed, the same rates applied to all points east of Salt Lake City, thus constituting a blanket zone that equalled in size the westbound blanket zone just described. However, on most eastbound traffic the rates increased with the distance. For this purpose the territory east of the Rocky Mountains, but excluding most of the southern states, was divided into rate groups, the number of rate groups in 1910 being ten, lettered from A to J.[2] The eastbound rate under this arrangement was lower, for example, to Chicago (in rate group D) than to New York (in rate group A). Thus the rate structure recognized the distance principle, but only by broad zones.

How did this blanket or postage stamp rate system come to be adopted? The matter may be made clear by reciting certain historical facts.

The first transcontinental rail route was completed in 1869,

[1] 19 I. C. C. Reports 174–175.

[2] A map showing these rate groups is in 19 I. C. C. Reports 241. The map is reproduced in Johnson, E. R. and Huebner, G. G., *Railroad Traffic and Rates*, vol. I, p. 461.

when the Central Pacific and the Union Pacific were joined at Promontory Point, Utah. The first through rate published over this route was a graded class rate, being lower from Chicago than from Pittsburgh, and lower from Pittsburgh than from New York. At first little effort seems to have been made by the railroads to compete seriously with the water routes for the coast-to-coast business, but even when the attempt was first made it proved unsuccessful. The railroads reduced the class rates and established commodity rates; but the water lines reduced their charges and kept the business. In 1877 the Central Pacific and the Union Pacific introduced a secret contract system, whereunder shippers who patronized the railroad lines exclusively for one year received especially low rates, the rates being different for different shippers. This arrangement led to bitter warfare between the railroads and the water carriers, but the outcome was favorable to the railroads, water competition being brought under effective control. Throughout this period of competition both class and commodity rates were graded to Pacific Coast terminals, but in a different manner. The class rates, applying to traffic that was more likely to move by rail than by water, were scaled down from the Atlantic seaboard, being higher at New York than at Chicago. The commodity rates, applying to traffic that was peculiarly subject to water competition, were scaled up from the Atlantic seaboard, being lower at New York than at Chicago. The rates were lower at the Atlantic seaboard, because water competition was more active there than in the interior; and the rates were kept low to hold water competition in check.

In the middle eighties a new factor entered into the situation. The Atchison, Topeka and Santa Fe Railroad, having been completed to Los Angeles, claimed its share of the transcontinental traffic. Yet it could not expect—nor could any other transcontinental railroad—to get its share of the commodity traffic, constituting the bulk of the business, so long as rates were scaled up from the Atlantic seaboard. It therefore declared that whatever rates applied at New York City would be accorded to Chicago. This declaration led to a rate war, the outcome of which was the adoption of a new set of graded commodity rates, this time scaling *downward* from the Atlantic seaboard, as with class rates. Thus matters remained until 1894; during this period the principle of graded rates was almost uniformly recognized in transcon-

tinental tariffs. But in the beginning of 1894 there broke out another rate war, as the result of which graded rates were abolished, first as far east as Chicago, and later all the way to the Atlantic Coast. It is not clear at just what date the blanket system was introduced, but the Interstate Commerce Commission states that the first blanket from the Missouri River to the Atlantic seaboard was adopted in June, 1897, and that under the tariff of June 25, 1898, which was said to have restored transcontinental rates to a normal condition, the blanket system was retained.[1]

From this historical statement it is clear how it came about that westbound rates to the Pacific Coast were blanketed. Water competition at the Atlantic seaboard compelled low rates by rail from the eastern seaports, if the railroads were to share fully in the competitive traffic. And these low water-compelled rates were given to interior towns as far west as the Missouri River (and sometimes as far west as Denver), because the railroads with their termini in the Middle West (whether on the Missouri River, on the Mississippi River, or at Chicago) demanded it. For a time even they secured actually lower rates than the Atlantic seaports, but this advantage they were not strong enough to retain. The so-called transcontinental roads demanded at least equality, because without such equality western manufacturers could not hope to develop in competition with eastern manufacturers. The transcontinental railroads were obviously interested in promoting the growth of the territory served by them. If the goods to be carried to the Pacific Coast were to originate on the Atlantic seaboard they might move to destination by water or by rail. If they went by water the transcontinental railroads would not share at all in their westbound movement. If they moved by rail the transcontinental railroads would share, to be sure, but they would have to divide the through rate with the eastern trunk line that originated the tonnage, and that delivered it to its western connection. If, however, the goods to be carried to the Pacific Coast were to originate in the Middle West, only a little of it could readily be seized by the water carriers, and all of the through rate could be retained by the transcontinental roads. This competition between the East and the Middle West is a case of "market competition," but it resulted in a wide blanket of rates because it was to the interest of the western railroads to insist

[1] 9 I. C. C. Reports 325, and 21 I. C. C. Reports 353.

that the Middle West, not enjoying water competition to the Pacific Coast, should have as favorable rates as water competition established at the eastern ports. Had it not been to the interest of these roads to take this stand, market competition would hardly have led to a broad blanket zone. That this is true is indicated in the fact that the blanketing of rates was much less general on eastbound shipments than on westbound. As we shall shortly show, the towns 1000 miles east of the Pacific Coast did not enjoy the same low rates to the Atlantic Coast that the Pacific Coast terminals did. Why were not Reno, Denver, and Spokane fully blanketed with the Pacific Coast terminals on eastbound shipments? One reason, and probably the main reason, was that most of the transcontinental railroads had their termini on the Pacific Coast, and they were not interested in building up Rocky Mountain towns to the same extent that they were (and are) interested in building up Chicago, St. Louis, and Omaha (their eastern terminals).

(2) The second characteristic feature of the transcontinental rate system was the discrimination against the "intermediate points." These intermediate points are stations upon a direct east-and-west line to the Pacific Coast terminals. The usual method of making rates to the intermediate points was to take the sum of the rate from the point of origin to the Pacific Coast terminal and the rate from the terminal back to the intermediate point, whether the rate was a class rate or a commodity rate. For example, Reno is on the main line of the Central Pacific, 155 miles east of Sacramento (long a Pacific Coast terminal, though ninety miles east of San Francisco).[1] The rate from Chicago to Reno was determined by adding the rate from Chicago to Sacramento to the local rate from Sacramento to Reno. However, if the intermediate point was so far removed from the Pacific Coast terminal that the sum of the terminal rate and the eastbound local rate amounted to more than the local rate west to the intermediate point, the local rate west would apply. For example, the rate on sheet zinc from Chicago to the Pacific Coast terminals in carload lots (1902) was $1.25, and the local from these terminals to Reno was $0.78, making a combined rate of $2.03. Yet the intermediate class rate from Chicago to Reno by the Western Classifi-

[1] Sacramento is connected with San Francisco by water (Sacramento River and San Francisco Bay).

cation was only $1.85 on sheet zinc in carload lots. These intermediate class rates operated as maxima, and in this particular instance, therefore, Reno did not take a rate made up of a combination upon the Pacific Coast, but took the local westbound rate. There were also a few intermediate *commodity* rates that acted as maxima, but these were not so common as the intermediate *class* rates. It must not be inferred from the foregoing account that the method of making rates by combination upon Pacific terminals applied only to intermediate points relatively near the coast, for on some other commodities—zinc slab, for example —Reno secured a lower rate by basing it upon the terminal than by taking the Western Classification intermediate class rate. This is particularly true, of course, when the goods moved under commodity rates; for the intermediate commodity rates that served as maxima were not so numerous as the intermediate class rates performing this function. It should be made clear also that though the rates to Pacific Coast terminals were blanketed from the Missouri River, all of the intermediate class rates and many of the intermediate commodity rates were graded. That is to say, to intermediate points the rates would be lower from the Missouri River than from the Mississippi River, lower from the Mississippi River than from Chicago, etc. The effect of this obviously was to give the Missouri River points an advantage in intermediate territory over Mississippi River points and over Chicago, and, so the Commission reported in 1902, virtually to prohibit business in intermediate territory from points east of Chicago.[1]

The foregoing method of rate making did not apply universally. Thus, in the long contested Spokane case it was shown that commodity rates to Spokane were by no means always the sum of the rate to Seattle plus the local from Seattle to Spokane. On about 16 per cent of the items of freight the rate to Spokane was no higher than to Seattle; on 14 per cent it was higher by the full amount of the local; and on 70 per cent it was higher, but not by the full amount of the local.[2] In the majority of cases the Spokane rate was higher than the Seattle rate by about 70 per cent of the local from Seattle to Spokane. Nevertheless the method of rate making we have described was the usual one, the

[1] 9 I. C. C. Reports 326.
[2] 15 I. C. C. Reports 382.

modifications made in Spokane's behalf being due in large measure to its aggressive action in demanding more favorable treatment.

How seriously such a method of rate making affected the welfare of the "intermediate points" is obvious. They could not serve as effective centers of distribution even for towns adjacent to them. The point may be brought home by the case of Boise, Idaho, called to the attention of a Congressional Committee by a member of the Idaho Railroad Commission. According to the Commissioner, Boise jobbers could not distribute either to the west or to the east in competition with Portland jobbers. The rate direct to Boise was equal to the sum of the rate to Portland ($2.00) plus the local from Portland to Boise ($1.50). The Portland jobber could thus distribute goods in Boise in competition with local jobbers. He could also distribute west of Boise, since on such shipments the Boise jobber had to pay the local from Boise west, making his total freight rate over $3.50, whereas the Portland jobber certainly had to pay no higher local than to Boise, and therefore his total freight bill was under $3.50 rather than over. The Portland jobber could also distribute east of Boise, since the local from Portland to (say) Mountain Home was less than the sum of the local from Portland to Boise and of the second local from Boise to Mountain Home. The discrimination against intermediate points was the more serious in view of the fact that local rates in transcontinental territory were very high,—higher indeed than in any other large territory in the country. And if, as frequently happened, freight moved to terminals under commodity rates (in carload lots), but to intermediate points under class rates (in less than carload lots) the discrimination was all the more burdensome. This indeed was the principal disability under which Spokane labored.

What was the explanation of the discrimination against the intermediate points? The principal explanation was water competition,—a competition that is obviously more effective at the Pacific seaports and the interior towns connected with the ocean by navigable waters than it is in the intermountain territory. Indeed in so far as shipments to intermountain territory were made by water to the coast and by rail inland it was only proper that rates to intermountain territory should be the sum of the rate to the coast plus the local back. The claim of the railroads was that they had to make low through rates to the coast to meet the competi-

tion of the water lines, and that they could not afford to apply these same rates on shipments to intermediate points. The coast rates covered the special costs of transportation, and made some, even though slight, contribution to the joint costs; and the railroads therefore found it worth while to compete with the water carriers for the business. But since the rates were so low that they did not make their proportionate contribution to the joint costs, the railroads could not give the intermountain territory the same rates. If they did, they would become insolvent. The argument is a familiar one; and it has validity, providing the water competition is active. Yet it should be noted that the effect of water competition on the rate system is quite different in the West from what it is in the East. In the East water competition is naturally more active at the Atlantic seaboard than in the interior, yet the Atlantic seaports have no lower rates to the Pacific Coast than do the cities in the Central West. This is because the transcontinental railroads terminating in the Central West are determined to give their constituencies as low rates as water competition compels the eastern railroads to give their constituencies. In the Far West, however, most of the railroads have their termini on the coast, where the large cities are, and where they tend to remain under the prevailing rate adjustment. In the Far West, therefore, the railroads insist on recognizing water competition at the coast, but do not insist on applying these low water-compelled rates to towns 1000 miles east of the coast.

Conceding the force of water competition, it might still be true that the discrimination against the intermediate points was undue. On occasion the railroads have controlled or neutralized the competition of the water lines. On other occasions they have made lower terminal rates than were required to meet the competition of the sea carriers. Over large areas they have ascribed to water competition a potency that it did not possess. For example, at one time the people on the Pacific Coast secured most of their manufactured goods from the region east of the Allegheny Mountains, but in 1910 they secured most of them from the Central West. This would be even more true of the purchases of the intermountain section. On such shipments water competition was not effective; and there would appear to be no good reason why the rate from Omaha (about 1500 miles from the Atlantic seaboard) should be any lower to the Pacific Coast than to intermediate points.

There were thus grounds, even conceding the presence of water competition, for the exercise of governmental authority to insure that the discrimination against the intermediate towns was not one whit greater than was compelled by circumstances.

The effective exercise of governmental authority to deal with the complex and troublesome transcontinental rate structure was not provided for until 1910. A long and short haul clause had been incorporated in the Act to Regulate Commerce of 1887, but judicial interpretation of this clause had rendered it nugatory.[1] In 1910, however, by the Mann-Elkins Act, Congress explicitly forbade any railroad to charge more for a short haul than for a long haul over the same line or route in the same direction, the short haul being included in the longer, *unless* the Interstate Commerce Commission in special cases gave its approval. The Commission, moreover, was empowered to prescribe the extent to which any railroad might be relieved from the operation of the prohibition. Unlike the Act of 1887 the clause was operative, even though circumstances were "dissimilar" at the farther and nearer point; the only way in which a railroad could secure relief was by the grace of the Commission. The Commission has steadily maintained that it may not exercise its power arbitrarily, but only in harmony with the spirit of the act, which requires that rates be reasonable and not unduly preferential. In the opinion of the Commission the long and short haul clause was amended in 1910 in order to restrict the force of market competition.[2] While Congress did not say that market competition should not be allowed to justify the charging of a higher rate to the nearer point, the whole spirit of the section, it maintains, expresses the view of Congress that it is not safe to let the railroads determine what markets shall be brought in competition with one another.

The Commission has received thousands of applications from the transcontinental railroads for permission to charge higher rates to the nearer points than to the more distant, and it is therefore impossible for us to do more than to indicate briefly the principles by which the Commission has been guided in handling this problem.

What these principles are is shown by the decisions of the Com-

[1] Compare pp. 227–230.
[2] 21 I. C. C. Reports 367.

mission in the Nevada Railroad Commission case [1] and the Spokane case,[2] both rendered on June 22, 1911. These decisions are significant, also, because they led to a judicial test of the extent of the Commission's authority. The Commerce Court, a specialized transportation court created by the Mann-Elkins Act of 1910, held that the Commission in these two decisions had exceeded its authority,[3] but the Supreme Court upheld the Commission.[4]

The Nevada Railroad Commission and the City of Spokane both complained of the method of making rates to intermediate points and of the discrimination that resulted therefrom. The railroads defended this method of rate making on the ground that it was the product of water competition. The Commission conceded that there was effective water competition, and that rates to the Pacific Coast from certain points might properly be lower than to the intermediate towns. For example, shipments from New York to San Francisco were peculiarly subject to water competition, and rates from New York to San Francisco might appropriately be lower than from New York to Reno. Shipments from Pittsburgh to San Francisco were also subject to water competition, though not to the same degree. Yet water competition could not be claimed as to shipments from Missouri River points (Omaha, for example,) to Denver and Reno. The guiding principle of the Commission, then, was that water competition became less effective the further west one went from New York City, and that it ceased to be effective at the Missouri River.

Adopting this principle, the Commission divided the country into zones, as follows: [5] zone I (the territory west of a north and south line through Omaha, but including Omaha); zone II (the territory east of zone I and west of a north and south line through Chicago, but including Chicago); zone III (the territory east of zone II, west of a line through Pittsburgh and Buffalo, and north of the southern states); zone IV (the territory east of zone III, and north of the southern states); and zone V (the southern territory not embraced in the foregoing zones). No order was made

[1] 21 I. C. C. Reports 329–384.
[2] 21 I. C. C. Reports 400–427.
[3] 191 Fed. Rep. 856–868 (1911).
[4] 234 U. S. 476–495 (1914).
[5] Our description is general. The exact boundaries are given in 21 I. C. C. Reports 425.

as to zone V. From zone IV, including, of course, the northern Atlantic seaports, where water competition was effective, the commodity rates to intermediate points might be 25 per cent higher than to Pacific Coast terminals, but not more than 25 per cent. Water competition was less influential in zone III, and rates from this zone to the intermediate points might not be more than 15 per cent higher than to the Pacific Coast. In zone II, including the city of Chicago, water competition was still less effective, and the discrimination against intermediate points on shipments from this territory was limited to 7 per cent. The Commission expressed grave doubt whether it was proper to allow a higher rate to intermediate points from zone II. As it said, "we look in vain throughout the records of this Commission for 20 years to find any but the most fragmentary evidence that sea

competition extends to Chicago." [1] But in its first application of the law, its powers not having yet been fully tested, the Commission wished to be extremely conservative, and therefore it allowed a difference of 7 per cent. With respect to zone I, however, the Commission was clear that there was no excuse for any higher rates from this territory to intermediate points than to Pacific Coast terminals. The eastern boundary of this territory was approximately 1500 miles from the Atlantic Ocean; and from this territory no traffic ever had been, and none probably ever would be, transported to the Atlantic Ocean and thence by water to the Pacific Coast. It was not water competition, but market competition that had made the rates from Omaha to Pacific terminals lower than to intermediate points, and the Commission refused to recognize market competition in this territory.

The relief accorded to the intermediate points by this decision was substantial. Whereas formerly the discrimination against them had been as great as 50 and even 100 per cent, it was now limited to a maximum of 25 per cent. The usual discrimination, however, was less than the maximum, for comparatively few of the needs of the people of intermountain territory were supplied from zone IV and even from zone III. In the case of Reno, for example, less than one-quarter of the westbound traffic to Reno originated east of Chicago, whereas three-quarters of it originated between Chicago and Denver.[2] The position of the intermediate points was not improved particularly through a reduction in their rates; for, though some of the intermediate rates were reduced, in the main the railroads obeyed the order by raising the terminal rates. Yet this gave undoubted relief to the intermediate points, because their principal grievance was not that the rates were absolutely too high, although they were high enough, but too high relative to the rates charged to other towns.

The decision of the Supreme Court sustaining the order of the Interstate Commerce Commission was rendered in June, 1914. Two months later the Panama Canal was opened for traffic; and almost at once water competition became more effective. The water carriers materially reduced their rates, improved their service both as to speed and frequency of sailings, and increased their tonnage capacity. The railroads had filed new tariffs to

[1] 21 I. C. C. Reports 355 (1911).
[2] 19 I. C. C. Reports 248 (1910).

comply with the order of the Commission, but before these tariffs went into effect (November 15, 1914) they requested the Commission to revise its zone order to allow for the changed conditions. Specifically the railroads asked the Commission to suspend its order as to the commodities in Schedule C, these being commodities that moved in large volume by water, and at rates materially below those charged by the rail lines. What the railroads wanted was permission to cut the terminal rates without being obliged to reduce correspondingly the intermediate rates. This relief the Commission felt it proper to grant. In its decision establishing a percentage relation between terminal rates and intermediate rates it had recognized the force of water competition, and it could not be denied that the opening of the Panama Canal had greatly increased the effectiveness of this competition. The Commission, therefore, in January, 1915, authorized the railroads to cut their terminal rates to enable them to compete with the canal, and to charge intermediate rates that did not conform to the percentages prescribed in 1911.[1] This permission was granted, of course, only on the low grade commodities that moved by water, and only on shipments to those ports, eighteen in number, at which the Atlantic-Pacific steamships delivered freight. There were other limitations on the railroads' freedom of action, yet it is not necessary to burden the reader with the details, particularly since the orders of the Commission dealing with the transcontinental rate structure followed one another in quick succession.

The order of the Commission in the aforementioned proceeding went into effect on April 30, 1915. Some four months later it became necessary to close the Panama Canal because of slides. The canal remained closed until April, 1916, but by that date the demand for ship tonnage for transatlantic service was so urgent that very little use was made of the Panama Canal for Atlantic-Pacific shipments. The intermediate cities, alert to perceive and press their advantage, claimed that water competition was no longer present, and therefore there was no justification for lower rates to coast terminals than to intermediate points. The Commission found this to be the case. In a decision rendered in June, 1917,[2] it held that water competition was then a negligible factor in the

[1] 32 I. C. C. Reports 611–658. See also 34 I. C. C. Reports 13–20 (April 30, 1915).

[2] 46 I. C. C. Reports 236–289.

traffic between the Atlantic and Pacific coasts, and it therefore not only withdrew the special relief, granted in January, 1915, but revoked its order of June 22, 1911, which had continued to apply except as to the articles in Schedule C. Another decision by the Commission was necessary to determine whether the railroads should observe the long and short haul clause by increasing their terminal rates or by reducing their intermediate rates. The railroads asked for permission to increase their terminal rates, and their request was granted in the main by the Commission, in a decision rendered in January, 1918.[1] After this decision there were no class or commodity rates to the Pacific Coast below those to the intermediate towns. The transcontinental rate structure had therefore at last been brought into conformity with the long and short haul clause, and thereby "a long standing cause of irritation to the intermountain country" was removed.[2]

The decision of the Commission was unwelcome to the Pacific Coast interests, and at the earliest favorable opportunity they returned to the fray. For a time after the decision of the Commission little could be done, because water competition continued negligible. The water lines were engaged in more remunerative traffic elsewhere, and few of them returned to the Atlantic-Pacific trade until 1920. By the middle of 1921, however, the competition of the water lines had become so great as to cut seriously into the revenues of the transcontinental railroads. Accordingly these roads, with the active support of the Pacific Coast interests, applied to the Commission for permission to establish lower rates to and from the Pacific terminals than were in effect to and from the intermediate points on traffic having origin or destination in the territory east of the Rocky Mountains. In a decision rendered on October 30, 1922, the Commission denied the application, with a few exceptions.[3] Had the law been the same in 1922 as in 1917 the Commission would doubtless have granted its approval, for water competition was then active, as it had not been in 1917. The passage of the Esch-Cummins Act, however, introduced a new situation. This act, like the Mann-Elkins Act, authorized the Commission to permit the railroads to depart from the long and short haul clause, that is, to make a lower charge to the more distant point

[1] 48 I. C. C. Reports 79–95.
[2] *Annual Report of the Interstate Commerce Commission*, 1918, p. 24.
[3] 74 I. C. C. Reports 48–98.

than to the nearer point; but unlike the earlier legislation it provided that the Commission should not sanction the establishment of a charge to or from the more distant point that was not "reasonably compensatory." Moreover, the Esch-Cummins Act declared it "to be the policy of Congress to promote, encourage, and develop water transportation, service, and facilities in connection with the commerce of the United States, and to foster and preserve in full vigor both rail and water transportation." The Commission expressed the view that the new provisions were Congress's way of saying that the Commission should adopt a less liberal policy in dealing with departures from the long and short haul rule than it had followed theretofore.

The Commission in the interpretation of the long and short haul clause as amended in 1920 found that a rate to be "reasonably compensatory" must (1) cover and more than cover the extra expenses incurred in handling the traffic to which it applied; (2) be no lower than necessary to meet existing competition; (3) not be so low as to threaten the extinction of legitimate competition by water carriers; and (4) not impose an undue burden on other traffic or jeopardize the fair return on the value of railroad property generally. Moreover, when the railroads applied for relief from the long and short haul clause, and proposed rates that were designated as reasonably compensatory, it was incumbent upon them to show that the rates conformed to these four criteria. Furthermore, the rates proposed by the railroads must not violate any other provisions of the Interstate Commerce Act, and especially the third section forbidding undue preference to any person, locality, or particular description of traffic. The Commission's opinion, after reviewing the facts, was that the rates proposed would cover the extra expenses incurred in handling the traffic; that they were no lower than necessary to meet existing competition; and that they were not so low as to threaten the extinction of legitimate water competition. As to the fourth criterion, the Commission was not convinced. It pointed out that such gain as the railroads would make through preventing by reduced rates the diversion of traffic to the water lines would be largely offset by the loss resulting from the lower rates on the traffic that would move by rail even without the reduction in rates. Moreover, the eastern railroads that had been delivering freight to the water lines at Atlantic ports, and had been receiving satis-

factory rates thereon, would receive less if they were to participate with the transcontinental roads in the division of low through rail rates to the Pacific Coast. The Commission said that it was not prepared to say that these collateral losses of net revenue would be great enough to justify it in denying the petition of the transcontinental railroads; but it had not been shown that such would not be the case, and the burden of proof was upon the railroads. The Commission, therefore, upon these and other grounds (notably undue preference to certain sections of the country), denied the railroads' petition. The long and short haul principle thus continues, as after 1918, to be observed in transcontinental territory, though rates to the Pacific Coast terminals from points east of the Missouri River are still blanketed as already explained.

REFERENCES

Clapp, E. J.: *Railway Traffic*, chs. 7–10 (1918).

Daggett, Stuart: "The Panama Canal and Transcontinental Railroad Rates," *Journal of Political Economy*, vol. 23, pp. 953–960 (December, 1915).

——: *Chapters on the History of the Southern Pacific*, ch. 16 (1922).

Interstate Commerce Commission Reports, vol. 21, pp. 329–370 (June 22, 1911).

Johnson, E. R. and Huebner, G. G.: *Railroad Traffic and Rates*, vol. 1, chs. 21–25 (1911).

McPherson, L. G.: *Railroad Freight Rates in Relation to the Industry and Commerce of the United States*, ch. 7 (1909).

Mather, Robert: "How the States Make Interstate Rates," *Annals of the American Academy of Political and Social Science*, vol. 32, pp. 102–119 (July, 1908).

Ripley, W. Z.: *Railroads: Rates and Regulation*, pp. 127–132, 238–243, 354–410, 473–485, 610–626 (1912).

PART III

LEGISLATION TO THE ENTRANCE OF THE UNITED STATES INTO THE WORLD WAR (APRIL, 1917)

CHAPTER X

STATE REGULATION

In Part III we shall discuss state regulation and describe the federal legislation dealing with railroads down to the entrance of the United States into the World War (April, 1917).

In this chapter, constituting the first chapter in Part III, we shall discuss the following topics: the right of state legislatures and commissions to regulate railroads, and particularly their rates; the right of courts to review the action of legislatures and commissions, whether state or federal; and the conflict of authority between the states and the federal government in railroad regulation. No attempt will be made to trace fully the history of state legislation or to describe at length its present status; the large number of states, and the frequent changes in their laws, makes such a chronicle inexpedient in a work of this nature. Our treatment will deal rather with fundamentals, which are less changing in character; and attention will be given to the details of state legislation only in so far as they relate to the subject matter of the chapter.

The Right to Regulate

State regulation of railroads in a thoroughgoing way dates from about 1870. Such control over railroads as the states exercised prior to this date took the form mainly of supervision rather than of regulation. The work of supervision was usually entrusted to a commission, as now, yet the duties and powers of the early commissions were quite different from those of the present day. The early commissions were concerned principally with such matters as the prevention of accidents, the collection of statistics, the appraisal of private property taken by the railroads for their right of way, and the observance by the railroads of the restrictions imposed by their charters. Over rates the commissions had practically no authority, except to ascertain whether the railroads were observing the rate provisions of their charters. Though the state legislatures had not seen fit to establish rates or to endow

a commission with power to establish them, they had frequently embodied in the railroad charters a schedule of rates and fares which the railroad receiving the charter might not exceed. These maximum rates, which came under the supervision of the commissions, proved quite ineffective as a means of controlling charges, largely because they were altogether too high. It was seldom indeed that a railroad cared to charge as high rates as those stipulated in the schedule of maxima; lower rates (encouraging shipments) usually proved more profitable, especially in view of the increasing efficiency and the declining costs of transportation. Though it soon became quite evident that the maxima had practically no effect on the level of railway rates, the state legislatures refrained from further legislation in the belief that competition would prove an adequate safeguard against extortionate charges. The defects of competition as a regulator of railway rates were not fully perceived at this early period; and accordingly there was more of a willingness to rely upon it. To do so, indeed, was in accordance with the prevailing economic and political philosophy, which was a belief in the *laissez faire* (let alone) doctrine of government. Moreover, it was not the general opinion of the time that the railroads required to be regulated; rather they were looked upon as public benefactors, which should be encouraged and assisted in every way, whether by grants of land or money or by freedom from burdensome legislation. Down to the seventies the greatest need, particularly in the West, was felt to be railroad facilities, and it was not thought advisable to interfere with railroad development. In the East the railroad net had already been developed rather completely, and there was no such intense demand for additional lines. Yet even here there was no drastic regulation of the kind that prevailed during the seventies in the Middle West. For example, the Massachusetts Railroad Commission, established in 1869, had very little authority over rates; it merely made recommendations, and relied upon publicity and the force of public opinion for the observance of its recommendations. The experience of Massachusetts was significant, moreover, in that this commission served as a model for a number of other commissions created at later dates.

The period of the seventies witnessed a rapid and remarkable change in sentiment with regard to railroads. Beginning about 1870 there swept through the country, particularly the Middle

West, a wave of drastic legislation designed to regulate railroads, and especially their rates. This movement became known as the Granger movement, because the principal force behind it was the National Grange of the Patrons of Husbandry, an organization which was established in 1867 without special reference to railway transportation, but which soon became the prime mover in the demand for railroad regulation. The National Grange was an organization of the farmers, but in its demand for the regulation of railroads it had the support of numerous other groups. Indeed it soon appeared that the railroads, which a few years earlier had been regarded as the "pioneers of dawning civilization" and the "harbingers of an increased prosperity," had suddenly become "tools of extortion in the hands of capitalists."

The grievances of the people, and particularly the farmers, were numerous—much too numerous to chronicle fully. The chief grievances were the general level of rates and the gross discriminations in rates. With corn selling in the Mississippi Valley for fifteen cents per bushel, the farmers naturally felt aggrieved, and they accused the railroads of extortion. While railroad rates may have been excessive, the root of the difficulty was a surplus of agricultural produce. The agricultural development of the West had proceeded very rapidly after the Civil War, partly because of the feverish construction of railroads and the opening up of new areas. As a result more grain and other agricultural products had been produced than could be sold at a profit. There were other causes of the depressed state of farming, yet this was undoubtedly the leading cause. The hostility of the farmers was also aroused by the prevalence of gross discriminations in rates. The bitter railroad competition of the seventies soon brought down the level of freight rates, and thus in time eliminated most of the criticism on this score. Yet this very competition increased the volume of discrimination. The pressure of competition forced the railroads to reduce rates at the points served by two or more lines; but it did not make necessary the application of these low rates to the noncompetitive points. The outcome was local discrimination. The farmers could not understand why the noncompetitive towns should be charged higher rates than the railroads had voluntarily accorded to more distant competitive towns; and they united with the residents of the noncompetitive towns to

insist on legislative action to prevent such an abuse of railroad power.

A number of other factors served to arouse the farmers' anger. Most of the farmers had contributed in one way or another to the financial support of the railroads serving their territory, and it was thus a bitter pill for them to be mistreated by the very railroad which they had helped to promote. In the desire to secure transportation facilities many states, counties, and towns had encouraged railroad promoters by means of grants of land, loans of money, and purchases of stock; and these contributions increased the taxes that the farmers had to pay. Moreover, many farmers were persuaded to buy the stock of railroads projected through their territory. The farmers believed that they would realize a two-fold gain through such purchases: first, a better market for their agricultural produce; and, second, handsome dividends on the stock. Numbers of them even mortgaged their farms in order to secure the needed funds. The result, however, was usually disappointing. The building of the railroad did improve the market for their products, yet not sufficiently to offset the decline in agricultural prices. The dividends, moreover, often failed to materialize. Many of the railroads failed to make money, sometimes because they were built too far ahead of the traffic, and sometimes because they were built to make a profit for their promoters rather than for their owners. Other railroads made money, but the insiders appropriated it by one device or another. The outcome was that the farmers became intensely hostile to the railroads, and demanded drastic legislation.

Had the opposition to the railroads been confined to the farmers, the railroads might have been able to prevent the enactment of legislation. As a matter of fact, however, the demand for legislation was general. This situation resulted from the attitude of the railway officials and from the numerous abuses characteristic of the time. The attitude of the railway officials was that the railroads were private enterprises organized for profit, and that they owed no obligation to the public. This uncompromising stand caused the officials and employees of the railroads to assume a high and mighty air in their dealings with the traveling public; and to subject them to all manner of discourtesies. The galling nature of these personal relations contributed powerfully to inflame all those who had any business dealings with the railroads, whether

as passengers or shippers. The hostility of the patrons was intensified also by virtue of the fact that the railroads were usually owned by capitalists in the East or in Europe, who, being "absentee owners," were believed to be immune from the force of public opinion, and thus in need of being subjected to the force of law. Another abuse was the widespread corruption that prevailed. One form of this corruption was the granting of free passes to those persons, such as legislators, judges, and editors, whom it was desired to influence. The railroads did not confine their improper activities, however, to the granting of free transportation; they even resorted to outright bribes to legislators and others. Many of the railroad systems were characterized also by internal corruption and jobbery; through construction companies, supply houses, and the like the stockholders were being "milked" for the benefit of the "insiders." Despite the aroused social conscience that frowned down on such abuses the railroad officials took the stand that they not only owed no obligation to the public, but that they were not even subject to the control of the law-making power. The people, on the other hand, believed that the railroads were enterprises affected with a public interest, and that they were subject to regulation by public authority, whether or no the railroads were empowered by their charters to fix rates in the first instance. In the face of such opposing views there was bound to be a struggle; the exercise by the people of their professed right to regulate was inevitable.

The state of Illinois took the lead in the enactment of thoroughgoing railroad legislation. Passing over the ineffective measure of 1869, which represented the first interference of the state with the right of the railways to control their charges, the people of Illinois revised their Constitution in 1870, and made provision in the new document for the regulation of railways. The railroad sections of this Constitution declared that railways were public highways; and they required the legislature to pass laws establishing reasonable maximum rates for the transportation of passengers and freight on the railroads of the state, correcting abuses, preventing discriminations and extortions, and providing adequate penalties. In compliance with the Constitutional mandate the legislature enacted a series of laws in 1871, establishing maximum rates for passengers, forbidding extortions and discriminations in freight rates, and creating a railroad and warehouse

commission. The railroads challenged the validity of this legislation; and in 1873 the Supreme Court of the state declared the act forbidding extortions and discriminations in freight rates to be unconstitutional.[1] The Chief Justice, who had delivered the opinion, came up for reëlection shortly thereafter, and was decisively defeated on this issue. The legislature straightway passed (in 1873) a new law that avoided the constitutional objections, and that directed the railroad commission to prepare a schedule of maximum rates for the transportation of freight and passengers upon every railroad within the state. These schedules were made presumptively reasonable in all suits involving railway rates, thus making it incumbent upon the railroads, in case they charged more than the rates specified in the schedules, to prove that their rates were reasonable. This placing of the burden of proof upon the railroads rather than upon the commission or the shippers was a new departure in railroad legislation, and represented a great gain from the standpoint of effective regulation. The railroads challenged the constitutionality of this act also, yet it was eventually sustained by the courts. The Illinois legislation is important, as it constituted the basis for subsequent railway legislation, not only in Illinois, but in the numerous other states that were influenced from time to time by the example of Illinois. The guiding principle of the legislation was the establishment of a mandatory commission, that is, a commission with power to regulate rather than merely to supervise or advise; and it became clear as the result of the experience of the next half century that the creation of these commissions represented one of the most constructive contributions that has yet been made to the solution of the railway problem.

The example of Illinois was followed by a number of other states. In 1871 the legislature of Minnesota established a fixed schedule of maximum rates for freight and passengers, and by a separate act provided for a railroad commissioner with power to collect statistics and to enforce the railroad laws. As in Illinois, the railroads contested the validity of the railroad legislation, and pending the judicial determination of its constitutionality refused to abide by it. The act was thus practically a dead letter. This attitude of the railroads, combined with the rapidly developing Granger movement, led to the passage in 1874 of a more drastic

[1] 67 Illinois Reports 11–27 (1873).

measure modelled on the Illinois law of 1873. The act of 1874 created a board of railway commissioners, and directed it to establish schedules of maximum rates that should be prima facie evidence of reasonableness. It also prohibited unjust discrimination, which was defined so as to require the observance of a tariff based directly upon mileage. This act the railroads decided to obey, because they believed that it gave them an excellent opportunity to bring home to the people the folly of railroad legislation. They kept their rates within the maximum set by the commission, but at those points where they had voluntarily applied lower rates than the maxima of the commission they *raised* the rates to the maxima. The higher rates were more than the traffic would bear—they were not the most profitable rates even to the railroads—yet the railroads elected to pocket the loss. A rigid mileage tariff, of course, is not economically sound; and therefore there was a reaction against the law. This reaction came at a time when the National Grange was rapidly declining in power, and accordingly the railroads were able to effect the repeal of the act in 1875. In its place was substituted a law which provided for a single commissioner with power merely to investigate and report. Unlike Illinois, then, the state of Minnesota abandoned the principle of effective railroad regulation, though the logic of events was to force it during the next decade to reassert its authority over railways.

Among the numerous other states that passed laws for the effective regulation of railroads were Iowa and Wisconsin. In Iowa the legislature in 1874 established a fixed schedule of maximum rates, but made no provision for a commission. The Iowa law was drawn with unusual care, yet it was repealed in 1878, and an advisory commission of the Massachusetts type substituted. The Wisconsin law of 1874 (called the Potter law) was the most drastic of the Granger laws. It provided legislative maxima, and established a commission of the mandatory type. After two years' trial the law was repealed, and for the mandatory commission there was substituted a single commissioner with merely supervisory powers.

It has been asserted on high authority that the repeal of these Granger laws within a few years after their enactment (except in Illinois) was the result of the operation of fundamental economic forces; that the laws were so severe that they reacted unfavorably

on railroad earnings and development, and therefore on the public welfare. It may be conceded that the legislation was not always based on sound principles, and was sometimes too drastic, yet it would be a mistake to hold the Granger legislation responsible for all of the financial difficulties of the railroads during the middle seventies. From 1873 to 1879 the country was in the throes of an industrial depression of unusual severity, and it was only to be expected that the railroad industry, like other industries, would show its effects. Moreover, the railroads were suffering in the middle seventies from the excesses of speculative development and overcapitalization that had contributed to the enactment of legislation, and they would have had to pay the price of their excesses, legislation or no legislation. Yet whatever may be the merits of this controversy, it is certain that the Granger movement was a necessary one. The railroads had taken a position that was intolerable. The doctrine of *laissez faire* as applied to railroads had proved unworkable, yet the railroads maintained that they were immune from legislative interference. It was inevitable, therefore, that the people put to the test the question of their right to regulate.

The issue of the right of the people to regulate was settled by the so-called Granger cases of 1876.[1] There were eight of these cases, all involving the Granger laws of either Illinois, Minnesota, Iowa, or Wisconsin. The leading case, from the standpoint of the enunciation of fundamental principles, was Munn *v.* Illinois,[2] though the issue in this case was not the right of a state to regulate railroads, but the validity of an Illinois law of 1871 establishing maximum rates for the storage of grain in elevators.

The fundamental argument of the railroads in the Granger cases was that legislatures were without constitutional power to fix rates. It was claimed that to regulate railway rates would be repugnant to the Fourteenth Amendment of the Constitution, which prohibits the states from depriving any person of property without due process of law. The Supreme Court of the United States held, however, that it had been customary in England from time immemorial, and in this country from its first colonization, to fix by law maximum charges for ferries, common carriers, hackmen, bakers, innkeepers, and the like; and that such regula-

[1] 94 U. S. 113–187.
[2] 94 U. S. 113–154.

tion had never been considered as necessarily depriving an owner of his property without due process of law. The basis of this right of regulation was the fact that the property was "affected with a public interest." Property becomes clothed with a public interest, said the Court, "when used in a manner to make it of public consequence, and affect the community at large. When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good."[1] That railroad property was "affected with a public interest" could not be denied, and therefore the state enjoyed the right of regulation. To so hold, said the Court, was not to establish a new principle of law, but only to give a new effect to an old principle.

The railways also opposed legislative regulation by the states on the ground that their charters exempted them from rate regulation. Most of the railroad charters conveyed the right to fix rates or fares, either directly or by implication, and it had been decided in the famous Dartmouth College case (1819) that charters were contracts. It was therefore argued that for the states to regulate rates was in violation of the constitutional provision forbidding any state to pass a law impairing the obligation of contract. The Supreme Court, however, held in substance that the mere fact that the state had granted to a railway company authority to fix its rates did not carry with it a renunciation by the state of its own superior right of regulation, unless indeed the state had specifically renounced the right. This finding was based on the well-settled rule of law that all grants by the state, and especially grants of immunity, are to be strictly construed against the party to whom they are made, and no grant of immunity can be claimed, therefore, unless it was specifically and definitely conferred.[2] Under such a rule no railroad incorporated under a general law, and practically no railroad incorporated by a special act, could claim immunity from legislative regulation. And even the very few railroads that might escape in this way from state regulation would, if engaged in interstate commerce, still be subject to federal regulation; for no state can relieve an interstate carrier from the control of the federal authority.

[1] 94 U. S. 126.

[2] See also Ruggles *v.* Illinois, 108 U. S. 526, 531 (1883).

The Granger cases contained other pronouncements of great importance, and they will be referred to again shortly. Their significance in this connection, however, is that they settled beyond the possibility of dispute that the states (and of course the federal government also) had authority to regulate the affairs of railroad corporations.

The Right of Judicial Review

We turn now to the second topic of this chapter: the right of courts to review the action of legislatures and commissions, whether state or federal. The right of legislatures to regulate railroads having been established by the Granger cases the question arose: was this right of regulation without limit? Or did the courts have power to review the action of the legislatures? This vital issue was dealt with also in the Granger cases. In those cases the Supreme Court of the United States declined to review the reasonableness of rates fixed by the states, on the ground that their reasonableness was entirely a legislative question. Yet in the course of time the Supreme Court flatly reversed itself on this point; and took the position that in the last analysis the courts alone could determine whether or not rates were reasonable. It will be worth our while to trace the development of this doctrine of judicial review, as the result of which the ultimate control of railroads was transferred from the legislatures to the courts.

In the Granger cases the railways claimed that even if the legislature did have the power to regulate their rates, it could not fix them so low as to deprive the carriers of an adequate return. The railways insisted that the owners of property were entitled to a reasonable compensation for its use, even though it was clothed with a public interest, and that what was reasonable was a judicial and not a legislative question. The Supreme Court, however, held otherwise. It said, in Munn *v.* Illinois, "In countries where the common law prevails, it has been customary from time immemorial for the legislature to declare what shall be a reasonable compensation under such circumstances, or, perhaps more properly speaking, to fix a maximum beyond which any charge made would be unreasonable. Undoubtedly, in mere private contracts, relating to matters in which the public has no interest, what is reasonable must be ascertained judicially. But this is

because the legislature has no control over such a contract. . . . The controlling fact is the power to regulate at all. If that exists, the right to establish the maximum of charge, as one of the means of regulation, is implied. . . . We know that this is a power which may be abused; but that is no argument against its existence. For protection against abuses by legislatures the people must resort to the polls, not to the courts. . . . Of the propriety of legislative interference within the scope of legislative power, the legislature is the exclusive judge." [1] From this decision two judges dissented, but not on the ground that the courts had authority to review the action of the legislature. The dissenting judges denied that the legislature had authority to regulate the compensation of grain warehouses, but agreed that if the legislature did enjoy such authority the extent of that compensation was "a mere matter of legislative discretion."

In another of the Granger cases the railroad lawyers reiterated their contention that the question of what was a reasonable compensation was for judicial determination, and could not be decided by the legislature. Again the Supreme Court spoke in no uncertain terms. It said: Where property has been clothed with a public interest, the legislature may fix a limit to that which shall in law be reasonable for its use. This limit binds the courts as well as the people. If it has been improperly fixed, the legislature, not the courts, must be appealed to for the change." [2]

By the Granger cases, therefore, it was settled that the reasonableness of railway rates was purely a legislative question, and that the railroads could not have a judicial review of the action of the legislatures, or of the action of the commissions to which the legislatures might have delegated rate making powers.

Ten years later, however, in Stone *v.* Farmers' Loan and Trust Company [3] (1886), the Supreme Court made certain remarks that clearly foreshadowed the emergence of the doctrine of judicial review. The state of Mississippi had granted a charter to a railroad company, by which it was authorized to fix from time to time the charges for transportation. Subsequently the state created a Railroad Commission with power to revise the rates of the railroads within the state. The railroad claimed that its

[1] 94 U. S. 132–134.
[2] 94 U. S. 178.
[3] 116 U. S. 307–347.

charter exempted it from public control of its charges. The Supreme Court, as in the Granger cases, fully upheld the constitutional power of the legislature to regulate when it had not explicitly surrendered this power, but it incidentally remarked: "From what has thus been said, it is not to be inferred that this power of limitation or regulation is itself without limit. This power to regulate is not a power to destroy, and limitation is not the equivalent of confiscation. Under pretence of regulating fares and freights, the State cannot require a railroad corporation to carry persons or property without reward; neither can it do that which in law amounts to a taking of private property for public use without just compensation, or without due process of law." [1] These remarks were *obiter dicta*, that is, not necessary to the decision of the case; and they could not therefore be regarded as expressing the settled conviction of the court. Nevertheless their significance is readily apparent. Obviously if the power of the legislature to regulate is not without limit, it follows that some other body must enjoy the power to determine when the legislature has exceeded the limit of its authority. The Court did not discuss the nature of these limitations, nor indicate by what agency they were to be imposed; it merely stated the general proposition that railroads enjoyed certain rights of which they could not be deprived, even by a legislature. Its declaration, however, that the right of regulation was not without limit was in fact the forerunner of the doctrine of judicial review, which was to be definitely put forth within a few years.

The right of judicial review of the reasonableness of railway rates fixed by legislatures (or administrative commissions) was definitely asserted in Chicago, Milwaukee and St. Paul Railway Company *v.* Minnesota, decided in 1890.[2] The state of Minnesota had enacted a statute creating a railroad commission with authority to fix rates. The decisions of the commission as to reasonable rates were made final and conclusive, that is, not subject to judicial inquiry. The Chicago, Milwaukee and St. Paul contended that the denial of a judicial determination of the reasonableness of the commission's rates deprived the railroad of its property without due process of law; and it was upheld in this contention by the Supreme Court. The Court said: "The question of the reason-

[1] 116 U. S. 331.
[2] 134 U. S. 418–466.

ableness of a rate of charge for transportation by a railroad company, involving as it does the element of reasonableness both as regards the company and as regards the public, is eminently a question for judicial investigation, requiring due process of law for its determination. If the company is deprived of the power of charging reasonable rates for the use of its property, and such deprivation takes place in the absence of an investigation by judicial machinery, it is deprived of the lawful use of its property, and, thus, in substance and effect, of the property itself, without due process of law and in violation of the Constitution of the United States." [1]

By this decision the Granger cases were overruled. The legislative body might still exercise the right of regulation; but the final arbiter of the reasonableness of railway rates was no longer the legislature, but the judiciary. No longer was due process of law to be found in the rates fixed by legislatures, but in the decisions of the courts concerning their reasonableness. As one author put it, the Supreme Court had executed a right-about-face. It did not do so, however, without a vigorous protest by three justices, who held that the legislature was the final tribunal of arbitrament; and that the decision of the majority represented an assumption of authority on the part of the judiciary which it had no right to make. Yet the die was cast, and the Court was thereafter to assume more authority over rate regulation rather than less.

The doctrine of judicial review was reaffirmed and elaborated in Reagan *v.* Farmers' Loan and Trust Company, decided in 1894.[2] The case is notable as being the first in which rates fixed by a state commission were successfully enjoined. A lower court had enjoined the enforcement of certain rates fixed by the Texas Railroad Commission, on the ground that the rates were unreasonably low. The Supreme Court, in discussing the right of commissions to establish rates, said: "There can be no doubt of the general power of a State to regulate the fares and freights which may be charged and received by railroad or other carriers, and that this regulation can be carried on by means of a commission. Such a commission is merely an administrative board created by the State for carrying into effect the will of the State as expressed by its legislation." [3] With respect to the right of judicial review the

[1] 134 U. S. 458.
[2] 154 U. S. 362–413.
[3] 154 U. S. 393–394.

Court said: "It is doubtless true, as a general proposition, that the formation of a tariff of charges for the transportation by a common carrier of persons or property is a legislative or administrative rather than a judicial function. Yet it has always been recognized that, if a carrier attempted to charge a shipper an unreasonable sum, the courts had jurisdiction to inquire into that matter and to award to the shipper any amount exacted from him in excess of a reasonable rate. . . . The province of the courts is not changed, nor the limit of judicial inquiry altered, because the legislature instead of the carrier prescribes the rates. The courts are not authorized to revise or change the body of rates imposed by a legislature or a commission; they do not determine whether one rate is preferable to another, or what under all circumstances would be fair and reasonable as between the carriers and the shippers; they do not engage in any mere administrative work; but still there can be no doubt of their power and duty to inquire whether a body of rates prescribed by a legislature or a commission is unjust and unreasonable, and such as to work a practical destruction to rights of property, and if found so to be, to restrain its operation." [1] And again: "While it is not the province of the courts to enter upon the merely administrative duty of framing a tariff of rates for carriage, it is within the scope of judicial power and a part of judicial duty to restrain anything which, in the form of a regulation of rates, operates to deny to the owners of property invested in the business of transportation that equal protection which is the constitutional right of all owners of other property." [2] The question then was as to the reasonableness of the rates fixed by the Texas Railroad Commission; and these the Supreme Court, after investigation, found to be unreasonable.

Subsequent to the Reagan case the Supreme Court rendered numerous decisions in which the methods of determining the reasonableness of rates were discussed. It is not necessary to refer to these decisions at this time; this topic will receive consideration later in the chapter on Reasonable Rates. Enough has been said at this stage to make it clear that the Supreme Court has assumed (and now exercises) the right to review the reasonableness of railway rates, whether fixed by legislatures or commissions. This right of review applies, moreover, to federal legislatures and com-

[1] 154 U. S. 397.
[2] 154 U. S. 399.

missions, as well as to state. The cases above outlined have dealt solely with state-made rates, but this is because the states preceded the federal government in the enactment of railway legislation. The federal government did not enter into this field in a comprehensive way until 1887, and meanwhile the Supreme Court had decided a number of cases dealing with the right of judicial review. The doctrine applies, however, in the one case as well as in the other; for the Fourteenth Amendment, which forbids a state to deprive any person of property without due process of law, has its counterpart in the Fifth Amendment, which imposes the same prohibition on the federal government.

The Conflict Between State and Federal Authority

In the regulation of railways there has developed a serious conflict of authority between the states and the federal government. This controversy has its origin, of course, in the dual form of our government. By the Constitution, adopted in 1789, certain powers were delegated to the federal government; and the powers not delegated to it were reserved to the states, unless specifically prohibited to them. The Constitution made no mention of railroads, of course, for this modern means of transportation had not been invented at that early date. Yet it gave Congress power to regulate commerce with foreign nations, and among the several states; and it is mainly by virtue of this general provision that Congress exercises its control over railways. This is one of the merits of the Constitution, that it contains terms that are sufficiently general and elastic to permit of its provisions being applied in accordance with the conditions of the time; Congress is not confined as within a straight-jacket. Since Congress has power to regulate commerce among the states, that is, interstate commerce, it follows that the states have power to regulate commerce *not* among the states, that is, intrastate commerce, unless indeed interstate and intrastate commerce are so mingled together that the supreme authority, the Nation, cannot exercise effective control over interstate commerce without incidental regulation of intrastate commerce. The courts have frequently been called upon to determine the dividing line between interstate and intrastate commerce; and have not always located it at the same place. The early decisions of the courts interpreted the power of the states broadly; the states were permitted to regulate even interstate commerce until

Congress saw fit to exert its superior authority. Recent decisions, however, have broadened the scope of federal authority; the federal government has been permitted to regulate even *intrastate* commerce when necessary to the effective regulation of *interstate* commerce. In the course of time, therefore, the power of the states to regulate has been narrowed, first, by a judicial review of their actions, and, second, by the enlarging jurisdiction of the federal government.

Our treatment of the subject will begin with the Granger cases, referred to frequently above. The Granger laws were attacked by the railroads on the ground that they were a regulation of interstate commerce, and therefore in violation of the Constitution, which confers on Congress the power to regulate commerce among the several states. The Supreme Court disposed of this claim in Munn *v.* Illinois, a case involving the validity of legislation fixing maximum charges for the storage of grain in warehouses. The Court called attention to the fact that the business of the warehouses was carried on exclusively within the limits of the state of Illinois. Their regulation was therefore a matter of domestic concern, and until Congress acted in reference to their interstate relations, the state might exercise all the powers of government over them, even though in so doing it might indirectly operate upon commerce outside its immediate jurisdiction.[1] Again in Chicago, Burlington and Quincy Railroad *v.* Iowa, in which the legality of maximum freight and passenger rates was questioned, the Supreme Court said: "The objection that the statute complained of is void because it amounts to a regulation of commerce among the States, has been sufficiently considered in the case of *Munn* v. *Illinois*. This road, like the warehouse in that case, is situated within the limits of a single State. Its business is carried on there, and its regulation is a matter of domestic concern. It is employed in State as well as in inter-state commerce, and, until Congress acts, the State must be permitted to adopt such rules and regulations as may be necessary for the promotion of the general welfare of the people within its own jurisdiction, even though in so doing those without may be indirectly affected." [2] And again, in Peik *v.* Chicago and North-western Railway Company, the Court said: "Until Congress undertakes to legislate for those who are without the State

[1] 94 U. S. 135.
[2] 94 U. S. 163.

Wisconsin may provide for those within, even though it may indirectly affect those without."[1] These cases are noteworthy, because they concede to the states a degree of authority such as they had not hitherto enjoyed.

Summarizing the Granger cases in their three-fold aspects, it was established by these cases that the states had the right to regulate railways; that this right of regulation was not subject to judicial review; and that the states might even pass laws that indirectly operated upon *interstate* commerce, until such time as the federal government saw fit to legislate. This upholding of the authority of the states made it possible for them to assume a larger measure of control over the railways, and accordingly throughout the late seventies and the early eighties a number of legislatures passed railway laws, creating railway commissions, etc. In 1886, however, the states received two blows at the hands of the Supreme Court. The first was the decision in Stone *v.* Farmers' Loan and Trust Company, which has already received consideration; and the second was the decision in the Wabash case.

The Wabash case [2] raised the issue of the power of a state legislature to regulate the charges made by a railroad for transporting freight to and from places within the state, if the freight had been brought from or was being carried to points without the state, if, that is, the freight was in the course of interstate transportation. The Court decided that the state had not the power. It held that such transportation was commerce among the states, control over which was vested *exclusively* in the federal government. The dissenting opinion conceded that this decision would be correct had Congress enacted legislation for the purpose of exerting its undoubted supremacy, but held that *in the absence of congressional legislation* the state might exercise such regulation. The majority opinion held, however, that even in the absence of congressional action the authority of the federal government was *exclusive*. The Court conceded, of course, that there could be a transportation of goods which was begun and ended within the limits of a single state, and was disconnected with any carriage outside its boundaries; and that such transportation was subject to state regulation. Yet it held that the transportation of

[1] 94 U. S. 178.

[2] Wabash, St. Louis and Pacific Railway Company *v.* Illinois, 118 U. S. 557–595.

goods under one contract and by one voyage from one state to another was commerce among the states, even as to that part of the voyage which lay within a particular state; and that the regulation of such transportation was confided to Congress exclusively.

The decision in the Wabash case exercised a decided influence on the later course of railway regulation. It made necessary the enactment of federal legislation; for otherwise the railways would go uncontrolled as to their interstate commerce, which constituted about three-fourths of their entire traffic. Accordingly Congress passed the Act to Regulate Commerce in 1887. The example of Congress was followed by a number of states; and within a few years after 1887 many of them passed laws for the more effective regulation of the intrastate affairs of railways. The federal legislation was soon rendered innocuous through a series of judicial decisions; and not until 1906 did Congress fully assert its authority over railways. The struggle between the railways and the people, of which the law of 1906 was the fruit, concentrated public attention on the railway question, and led to a new batch of state statutes. These laws dealt with many matters, including service, safety, and finances; but especial reference may be made to two types of statutes: (1) the enactment by the legislatures of maximum fare and rate laws; during 1903 to 1907 twenty-two states passed maximum fare laws, and nine passed maximum rate laws; [1] (2) the establishment of mandatory railroad commissions; during 1905 to 1907 fifteen commissions were created, eight being in states which then had no commission, and seven in states which replaced the former commission with a new one. [2] Of these fifteen commissions, thirteen were of the mandatory type, enjoying large powers of regulation—five of them actually possessing the authority to make complete rate schedules for all state traffic. A striking feature of the new commissions was the fact that some of them were given authority not only over railroads, but also over numerous other public utilities, such as street railway, water, electric light, gas, telegraph, and telephone companies. [3] This movement

[1] Huebner, G. G., *Annals of the American Academy of Political and Social Science*, 32, pp. 146–147.

[2] Ibid., pp. 138–139.

[3] The state of Wisconsin was one of the pioneers in this movement. For an account of its experience, see Holmes, F. L., *Regulation of Railroads and Public Utilities in Wisconsin.*

had not gone very far by 1907, yet it developed rapidly within a few years, particularly during 1911 to 1913. Sometimes the new commissions were called public utility or public service commissions, and sometimes they were still called railroad commissions, despite their enlarged jurisdiction. A few indeed were given jurisdiction over companies that were not even public utilities, in which event they were known as corporation commissions.

The increased activity of the states naturally led to further conflicts of authority between the states and the federal government. The states in increasing measure were adopting regulations and establishing rates that necessitated a change in the interstate rates; for the relation of rates on intrastate traffic to those on interstate traffic is so close that a change in the former is almost certain to affect the latter. Yet the regulation of interstate commerce was (and is) confided exclusively to the federal government. The logic of the situation therefore demanded that Congress should enjoy the authority to control intrastate commerce to the extent necessary for the exertion of its constitutional power over interstate commerce and its instruments (railways). That Congress did enjoy such authority was established by the Minnesota Rate Cases and the Shreveport Rate Cases.

The Minnesota Rate Cases, [1] decided in 1913, involved the validity of orders of the Railroad Commission of Minnesota, and of acts of the Minnesota legislature, prescribing maximum freight and passenger rates. These rates were made applicable solely to traffic between towns within the state, yet their effect was to compel a revision of the rates on traffic to and from the state.[2] To make the point clear by an illustration, the cities of Duluth and Superior lie in close proximity at the western extremity of Lake Superior, yet Duluth is in Minnesota, while Superior is in Wisconsin. These cities must have the same rates if they are to be given an equal opportunity to compete for business, and the railroads had always placed them on a parity. When, therefore, the state of Minnesota reduced the rates on shipments from Duluth to other points in the same state, the railroads naturally reduced the rates

[1] 230 U. S. 352–473.

[2] For an excellent article describing how the states actually made interstate rates, see Mather, R., *Annals of the American Academy of Political and Social Science*, 32, pp. 102–119.

from Superior by an equal amount. The action of Minnesota in regulating intrastate rates had thus led to a revision of the interstate rates, and necessarily so unless interstate business was to be discriminated against. The reduction in rates was substantial, and affected many other interstate shipments than those in the illustration; and accordingly the stockholders of the railroads brought suit to prevent the adoption of the reduced rates ordered by the state of Minnesota. The issue was so fundamental and far-reaching that the railroad commissioners of eight states filed briefs, in which they argued that if the acts of the Minnesota legislature and the orders of the Minnesota Railroad Commission were not sustained, state regulation of rates for intrastate transportation would be practically destroyed.

The Supreme Court of the United States upheld the authority of the federal government. It declared that "the authority of Congress extends to every part of interstate commerce, and to every instrumentality or agency by which it is carried on; and the full control by Congress of the subjects committed to its regulation is not to be denied or thwarted by the commingling of interstate and intrastate operations." [1] The states could not under any guise impose *direct* burdens upon interstate commerce, whether Congress acted or not; that was settled by the Wabash and other cases. In the absence of congressional legislation, however, the states might pass laws affecting local interests, even though interstate commerce was *indirectly* or incidentally burdened. Yet the paramount authority of Congress over interstate commerce enabled it to intervene at its discretion for the complete government of that which had been committed to its care, and for this purpose Congress might displace local laws by substituting laws of its own. "If the situation has become such, by reason of the interblending of the interstate and intrastate operations of interstate carriers, that adequate regulation of their interstate rates cannot be maintained without imposing requirements with respect to their intrastate rates which substantially affect the former, it is for Congress to determine, within the limits of its constitutional authority over interstate commerce and its instruments the measure of the regulation it should supply." [2] In a sentence, then, Congress could fix even intrastate rates in so far as

[1] 230 U. S. 399.
[2] 230 U. S. 432–433.

this might be necessary to the exercise of its complete authority over interstate rates.

Despite these pronouncements the Supreme Court upheld the Minnesota legislation. It did so on the ground that the Minnesota legislation came within that class of subjects concerning which the states could act *in the absence of Congressional action.* The Court decided against the railroads and in favor of the state of Minnesota, not because Congress lacked the power to prevent a discrimination against interstate commerce by state-made rates, but because Congress had not yet seen fit to exercise its undoubted power. Though the decision was temporarily a victory for the states, therefore, it was fundamentally an assertion of the supremmacy of the federal government.

The Shreveport Rate Cases,[1] decided in 1914, dealt with a controversy similar to that decided in the Minnesota Rate Cases, yet they involved an additional point of such importance as to justify a separate consideration. The Railroad Commission of Texas had established class and commodity rates on traffic moving within the state of Texas. The Railroad Commission of Louisiana complained that the railroads running from Shreveport, Louisiana, to points in Texas maintained rates that were unreasonable, and that discriminated against interstate shipments in favor of intrastate shipments within the state of Texas. The Railroad Commission made its complaint to the Interstate Commerce Commission. It is important to note that complaint was made to the Commission; it is this feature of the case that distinguishes it from the Minnesota Rate Cases, where complaint was made direct to the courts. The Interstate Commerce Commission, in a decision rendered in 1912, declared that the complaint of Louisiana was justified.[2] It found, for example, that a rate of sixty cents per hundred pounds would carry first-class traffic westward from Shreveport 55 miles, while the same rate would carry first-class traffic eastward from Dallas, Texas, as far as 160 miles, or nearly three times as far. The discrimination in favor of Houston, Texas, with which city Shreveport also competed for the trade of the intervening territory, was likewise substantial. The Commission therefore awarded relief. It established maximum

[1] Houston, East and West Texas Railway Company *v.* United States, 234 U. S. 342–360.

[2] 23 I. C. C. Reports 31–68.

class rates from Shreveport to certain Texas points; and to eliminate the discrimination in commodity rates it ordered the railroads not to charge any more for carrying articles from Shreveport to Dallas and Houston, and intermediate points, than they charged for carrying these articles for equal distances from Dallas and Houston toward Shreveport. The maximum *class* rates established by the Commission were substantially the same as those fixed by the Railroad Commission of Texas, and accordingly the railroads obeyed this part of the order. The *commodity* rates within the state of Texas, however, were very low—they had purposely been made low by the Railroad Commission in order to promote the development of manufacturing and distributing centers—and the railroads refused to apply these low commodity rates to interstate shipments from Shreveport. The railroads refused on the ground that they could not be compelled to reduce rates that were admitted by the Interstate Commerce Commission to be reasonable, merely in order to equalize these rates with lower and state-made intrastate rates. The inferior federal court held that the order of the Interstate Commerce Commission relieved the railroads from the obligation to observe the state-made rates, and that they were at liberty to obey the Commission's order by increasing the intrastate rates sufficiently to remove the forbidden discrimination against interstate commerce. The case came on appeal to the Supreme Court.

The validity of the order of the Interstate Commerce Commission was attacked on two grounds: (1) that Congress was impotent to control the intrastate charges of an interstate carrier, even to the extent necessary to prevent injurious discrimination against interstate traffic; and (2) that even if Congress had this power, it had not exercised it, and therefore the Interstate Commerce Commission had exceeded the authority that had been conferred on it. With regard to the first contention, the Supreme Court held it was unnecessary to repeat what it had frequently said with respect to the complete and paramount character of the power confided to Congress to regulate commerce among the several states. It is of the essence of this power that, where it exists, it dominates. "Wherever the interstate and intrastate transactions of carriers are so related that the government of the one involves the control of the other, it is Congress, and not the State, that is entitled to prescribe the final and dominant rule,

for otherwise Congress would be denied the exercise of its constitutional authority and the State, and not the Nation, would be supreme within the national field." [1]

Since Congress had the power, and could provide for its exercise through a subordinate body, the second question was: had Congress conferred this power on the Commission? The Supreme Court quoted from section three of the Act to Regulate Commerce, which made it unlawful for any common carrier subject to the provisions of the act to subject any locality to any undue or unreasonable disadvantage in any respect whatsoever; and pointed out that no exception was made of unreasonable discriminations against interstate traffic resulting from the establishment of state-made rates. Congress, therefore, had forbidden unreasonable discriminations against interstate commerce, and it had established a Commission with power to enforce the prohibition. In answer to the argument that the first section of the Act to Regulate Commerce contained a proviso to the effect that the act did not apply to the transportation of passengers or property wholly within one state, the Court said that this meant that intrastate rates were subject to the authority of the states *in the absence of a finding by the Commission of unjust discrimination.* In the Shreveport Rate Cases, however, there had been a finding by the Commission to that effect. This is where the Minnesota Rate Cases and the Shreveport Rate Cases differ. In the former also the Supreme Court was asked to hold that the rates fixed by the state of Minnesota were illegal because they discriminated against interstate commerce in violation of section three of the Act to Regulate Commerce. Yet it did not so hold, because the question whether there had been a discrimination against interstate commerce was held to be one for determination by the Interstate Commerce Commission, rather than by the courts; and the Commission had made no such finding. In the Shreveport Rate Cases, however, the Commission had made such a finding, and its order directing the cessation of the discrimination was one that it had power to make. The Supreme Court said that it was not unmindful of the gravity of the question that was presented when state and federal views conflicted. But it was recognized at the beginning that the Nation could not prosper if interstate trade was governed by many masters, and where the freedom of interstate commerce was involved the

[1] 234 U. S. 351–352.

judgment of Congress and its lawfully established agencies must control.

The supremacy of the federal government having been fully established by the Minnesota and Shreveport Rate Cases, the later developments may be briefly outlined. The United States entered into the war in April, 1917; and late in December the government took over the operation of the railways. President Wilson, in his proclamation of December 26, 1917, directed that the railroads, even though under government control, should remain subject for the time being to all existing statutes and orders of the regulating commissions, state as well as federal; but that any orders thereafter made by the Director General of Railroads should have paramount authority and be obeyed as such. The Federal Control Act of March, 1918, which provided the necessary legislation for the operation of the railroads while under federal control, contained similar provisions. Acting under the powers thus conveyed, the Director General made state rates as well as interstate rates, and paid little attention to state statutes and commissions. Shortly after the cessation of hostilities (in November, 1918) much more consideration was given to the state commissions, yet until the passage of the Esch-Cummins Act, providing for the return of the railroads to their owners on March 1,1920, the government retained full power over intrastate rates.

The Esch-Cummins Act, passed on February 28, 1920, represented the peace-time solution (or attempted solution) of the railroad problem. So far as rates made by the states are concerned, it declared unlawful any state-made rate or fare which caused an unjust discrimination against interstate commerce. Moreover, the Interstate Commerce Commission, whenever it found any such unlawful rate or fare, was to prescribe a rate or fare which would remove the discrimination; and its rates were to be obeyed, "the law of any State or the decision or order of any State authority to the contrary notwithstanding." This provision constituted a legislative recognition of the rule of the Shreveport Rate Cases, which was that the Commission may fix even intrastate rates when necessary to prevent a discrimination against interstate commerce. The Interstate Commerce Commission was authorized, but not required, to confer with the state authorities with respect to rate relationships, to hold joint hearings with

them, and to avail itself of their coöperation, services, records, and facilities. The problem of the future thus appears to be the securing of the necessary coöperation between the Interstate Commerce Commission and the state commissions. There are those, to be sure, who would like to see the state commissions deprived entirely of authority over railroad transportation, yet such extreme action would not prove desirable. The state commissions are in much closer touch with local conditions than the Interstate Commerce Commission can possibly be; and they undoubtedly have their place in the scheme of regulation. Nevertheless, the national character of the railway business necessitates the exercise of dominant control by the federal government. It seems likely, therefore, that the state commissions—in 1922 there was a railroad commission in every state of the Union except Delaware—will find that their chief future usefulness lies in the regulation of local public utilities (such as street railway, gas, electric light, and water companies), over which the federal government has no control. And this task of regulation, it may be added, is likely to keep them fully occupied for some time to come.

REFERENCES

Adams, A. D.: "Reasonable Rates," *Journal of Political Economy*, vol. 12, pp. 79–97 (December, 1903).

Adams, C. F. Jr.: "The Granger Movement," *The North American Review*, vol. 120, pp. 394–424 (April, 1875).

——: *Railroads: Their Origin and Problems*, pp. 116–148 (1888).

Buck, S. J.: *The Granger Movement*, chs. 1, 4–6 (1913).

Coleman, W. C.: "The Evolution of Federal Regulation of Intrastate Rates: The Shreveport Rate Cases," *Harvard Law Review*, vol. 28, pp. 34–81 (November, 1914).

Dixon, F. H.: *Railroads and Government*, ch. 18 (1922).

Johnson, E. R. and Van Metre, T. W.: *Principles of Railroad Transportation*, ch. 25 (1921).

Moody, John: *The Railroad Builders*, pp. 211–232 (1919).

Sharfman, I. L.: *Railway Regulation*, chs. 6, 9 (1915).

Smalley, H. S.: "Railroad Rate Control," *Publications of the American Economic Association*, 3rd series, vol. 7, chs. 1–2 (1906).

Swayze, F. J.: "The Regulation of Railway Rates under the Fourteenth Amendment," *Quarterly Journal of Economics*, vol. 26, pp. 389–402 (May, 1912).

CHAPTER XI

THE ACT TO REGULATE COMMERCE OF 1887 AND ITS INTERPRETATION

In this chapter we shall explain the conditions leading to the passage of the act of 1887, discuss its provisions, and review its interpretation at the hands of the courts.

Conditions Leading to the Passage of the Act

The Act to Regulate Commerce of 1887 was the first comprehensive statute enacted by Congress for the purpose of regulating interstate railroads. Prior to this act, however, there had been passed a number of laws dealing with miscellaneous railroad matters. Of these laws there are two that deserve brief mention. The first one, passed in 1866, was designed to facilitate through interstate shipments. Before the passage of this act it had not been uncommon for the railroads to refuse to allow their cars to pass over on to the lines of a connecting railroad, and to refuse to issue through bills of lading. In some instances this refusal was based upon the restrictions of state charters. The evils of such practices are clear. Shippers at junction points suffered great inconvenience through the necessity of unloading and reloading their freight; the carriage of the through mails and freight was delayed; and the transportation of passengers and federal troops was subjected to unnecessary restraints. Accordingly in 1866 Congress provided that every railroad company whose road was operated by steam was authorized to carry freight, passengers, troops, and mails over its line from one state to another; and to connect with railroads of other states so as to form continuous lines for the transportation of freight, etc., to destination.[1] This act, it will be noted, authorized the railroads to form through routes, but it did not compel them to do so.

The second act, passed in 1873, dealt with the carriage of live stock. By the early seventies the live stock traffic from the western states had reached large proportions, but this traffic was

[1] 14 Statutes at Large, p. 66.

not handled under conditions that were sufficiently considerate of the health of the consumer or of the feelings of the cattle. The act of 1873, therefore, forbade any railroad whose road formed part of a line over which cattle, sheep, swine, or other animals were conveyed from one state to another to confine these animals in cars for more than twenty-eight consecutive hours, without unloading them for rest, water, and feeding, for a period of at least five consecutive hours, unless prevented from unloading them by storm or other accidental causes.[1] The act provided, however, that the requirement of unloading should not apply when the animals were carried in cars that were constructed in such manner that the animals could (and did) have proper food, water, space, and opportunity for rest. The act of 1873 thus encouraged the construction and use of an improved stock car.

Though no federal statute regulating interstate railroads in a comprehensive way was passed until 1887, there was much agitation for such legislation, and a number of bills were passed by one house or the other. During the early seventies the demand was insistent that the rates of transportation be reduced. This demand was pressed with especial vigor by the farmers of the Middle West. This territory had been rapidly developed after the Civil War, and as a result there had emerged a surplus of grain and other agricultural products. Simultaneously prices, including the prices of agricultural products, had declined because of the contraction of the paper money that had been issued during the Civil War. The farmers, heavily in debt, were particularly hard hit, and they demanded lower rates to the East and to Europe in order that they might have a wider market for their surplus produce. The farmers, as we have seen, brought pressure to bear on the state legislatures, and secured the enactment of laws that established maximum charges or that created commissions with power to fix rate schedules. Yet they also appealed to Congress for relief. Accordingly in 1872 President Grant recommended that Congress investigate the possibility of securing "more certain and cheaper transportation of the constantly increasing surplus of western and southern products to the Atlantic seaboard." The Senate acted upon this recommendation, and appointed a committee that became known as the Windom committee.

[1] 17 Statutes at Large, p. 584.

The report of the Windom committee was made in 1874.[1] The committee agreed that cheaper transportation was urgently needed, and made a number of recommendations as to the means by which the desired result might be brought about. The principal reliance of the committee was upon competition, though not upon competition among privately owned railways. Such competition, the committee held, would afford no substantial relief, even if new lines were constructed, because self-interest would inevitably lead them into combination with existing lines. The only means of securing and maintaining effective competition among railways, it said, was for the federal government or the states to own or control one or more railway lines. The government line, of course, would not be allowed to combine with private lines, and it would thus serve as an effective regulator of their rates. The committee also recommended the improvement of the waterways, which afforded—so it held—the cheapest means of transport for all bulky and cheap commodities, and which were in addition the natural competitors and effective regulators of railroads. The committee made other recommendations, such as a Bureau of Commerce with authority to require reports from railroads and to collect information concerning them, but the keynote of its report was a reliance upon competition as a means of securing cheaper freight rates. The report is significant, also, in that it presented the first comprehensive plan for the regulation of interstate railway transportation.

Notwithstanding the intensity of feeling upon the part of the farmers, no legislation was enacted. The House of Representatives in 1874 passed a bill, the object of which was a reduction in rates; but it was not accepted by the Senate. In the dozen years that followed, both the House and the Senate passed bills to regulate railroads, but these bodies were unable to adjust their differences, and accordingly none of the bills became law. Meanwhile conditions had greatly changed. In the early seventies the principal grievance of those who advocated railroad regulation was the high level of freight rates. By the middle eighties, however, there was no longer much occasion for criticism of the railroads on this score. Throughout the seventies there was bitter competition among the railroads, and rates were drastically reduced. These low rates caused some railroads to fail, and forced all of them to

[1] Senate Report no. 307, 43rd Cong., 1st Sess.

introduce marked economies in operation. Yet the reductions in rates that resulted from railway competition were by no means uniformly applied. They were naturally greater at the towns where there was competition than at the towns where competition was absent. The result was local discrimination. Not that there was no complaint as to local discrimination throughout the seventies—on the contrary there was a great deal of complaint—but discrimination was then a secondary cause of complaint as compared with the general level of rates. By the middle of the eighties, however, discrimination, whether between localities, persons, or commodities, constituted the principal grievance.

The situation as to discrimination was brought out in the report of the Cullom committee. In 1885 the Senate appointed a committee to investigate the subject of railroad regulation; and this committee, named after its chairman, made its report in January, 1886. The committee, after enumerating specifically the principal causes of complaint, expressed the conviction that "the paramount evil chargeable against the operation of the transportation system of the United States as now conducted is unjust discrimination between persons, places, commodities, or particular descriptions of traffic." [1] The railroad representatives argued before the committee that arbitrary or oppressive rates could not be maintained; that the railroads were regulated sufficiently by competition with rival roads and with water routes, by commercial necessities, by the natural laws of trade, and by that self-interest which compelled railway corporations to have due regard to the wants and opinions of those upon whom they had to depend for business; that such discriminations as existed were unavoidable; that the managers of the railways should determine the compensation they were entitled to receive; and that in any event the common law afforded the shipper an adequate remedy against any infringement of his rights. But the committee declared that this answer failed to recognize the public nature and obligations of the carriers, and the right of the people, through the governmental authority, to have a voice in the management of corporations that performed a public function. Moreover, it said, the facts did not warrant the claim that competition and self-interest could be relied upon to secure the shipper against abuse and discrimination, nor that the common law furnished a satisfactory remedy. The committee found that

[1] Senate Report no. 46, 49th Cong., 1st Sess., p. 215.

individual favoritism (personal discrimination) was "the greatest evil chargeable against the management of the transportation system of the United States." The practice of personal discrimination, it said, "prevails so generally that it has come to be understood among business men that the published tariffs are made for the smaller shippers and those unsophisticated enough to pay the established rates . . . and that the most advantageous rates are to be obtained only through personal influence or favoritism or by persistent 'bulldozing'." As to the effect of this practice, the committee said, "When unjust discrimination is practiced by the carrier, success in business depends more upon favoritism (if nothing worse) than upon intelligence, integrity, and enterprise. The effect is demoralizing in the extreme. Business is conducted upon a false basis, false standards of commercial honor are erected, and a premium is offered to corruption. Worst of all, the advantages of unjust discrimination are, as a rule, enjoyed by those who least need outside aid, and the inevitable effect of this indefensible practice is to build up the larger dealer and crush out the smaller, to foster monopoly, and, in short, to encourage the existing tendency, already too strong, towards the concentration of capital and the control of commerce in the hands of the few." The committee therefore recommended the passage of legislation that would protect the people against discriminations, an evil then regarded as of greater moment than the general level of railway rates.

While the existence of discrimination was doubtless the principal force making for effective railway regulation, there were other contributory factors. Railroad pools honeycombed the country in the middle eighties, and the public distrusted them from a fear that they would be used to raise and maintain rates. Speculation, manipulation, fraud, and corruption were very common, especially during the eighties when the railroad net was being developed by leaps and bounds. Stockwatering was customary, and resort to it contributed greatly to the popular hostility against the railroads. And, finally, the arrogance of the railroad managers was bitterly resented by the people. The general attitude of the railway executives was that the railway business was a private one which they would run to please themselves; and many held the view, which a few were bold and foolish enough to express, that "the public be damned."

Conditions were thus ripe for the establishment of federal con-

trol of interstate railways. However, notwithstanding the favoring conditions, such legislation might have been delayed for several years had there not come at this juncture a decision by the Supreme Court that made federal legislation practically imperative. This was the decision in the Wabash case, rendered in October, 1886.[1] In this case the Supreme Court held that the transportation of goods under one contract and by one voyage from the interior of the state of Illinois to the state of New York was "commerce among the states," even as to that part of the voyage that lay within the state of Illinois; and the regulation of interstate commerce was confided exclusively to Congress by the commerce clause of the Constitution. Prior to this decision, as we have seen, some of the states had exercised jurisdiction over interstate commerce, in the belief that they had such power in the absence of federal legislation, but the decision in the Wabash case definitely limited their authority to intrastate traffic. The significance of this decision, so far as the need of legislation is concerned, lay in the fact that about three-fourths of the railway traffic in 1886 was interstate, that is, moved from one state to another, and without federal legislation the railroads could go unregulated as to the major portion of their business. Matters being thus brought to a head, the Senate and House adjusted their differences; and the Act to Regulate Commerce became law on February 4, 1887.

Provisions of the Act

The act contained twenty-four sections, but we shall describe only its leading provisions.[2]

Section one defined the carriers to which the act was applicable. These included (1) common carriers engaged in the transportation of passengers or property by railroad in interstate or international commerce; and (2) common carriers engaged in the transportation of passengers or property partly by railroad and partly by water when both were used, under a common control or arrangement, for a continuous shipment in interstate or international commerce. The act did not apply to common carriers wholly by water nor to intrastate traffic, the latter being specifically excluded.

Section one also declared that all charges made for any service rendered in the transportation of passengers or property should be

[1] Cf. pp. 201–202.

[2] 24 Statutes at Large, pp. 379–387.

reasonable and just. This provision was not new, being found in practically every state statute dealing with railway rates. It was in harmony also with the common law, a system of unwritten law, not evidenced by statute, under which unjust and unreasonable rates were declared illegal by the courts, even in the absence of a statute to that effect.

Section two forbade personal discrimination. It declared it to be unlawful for any common carrier, directly or indirectly, by any special rate, rebate, or other device, to charge one person more than another for performing a like and contemporaneous service in the transportation of a like kind of traffic under substantially similar circumstances and conditions. But in section twenty-two it was provided that nothing in the act should apply to the carriage or handling of property free or at reduced rates for the federal, state, or municipal governments, or for charitable purposes, or to the issuance of mileage, excursion, or commutation passenger tickets; and that nothing in the act should be construed to prevent the railroads from giving free carriage to their own officers and employees, from exchanging passes and tickets with other railroads for their officers and employees, or from giving reduced rates to ministers of religion.

Section three forbade undue preference. It declared it to be unlawful for any common carrier to give any undue or unreasonable preference to any particular person, company, locality, or description of traffic, in any respect whatsoever. It also required every common carrier to afford proper and equal facilities for the interchange of traffic with other lines, and it forbade any carrier to discriminate in rates between such connecting lines; but this section was not to be construed as requiring any carrier to give the use of its tracks or terminal facilities to another engaged in a like business.

The general provisions against discrimination in sections two and three encountered practically no opposition, even from the railroads. These provisions merely affirmed certain fundamental principles of justice, the violation of which by railroad officials under stress of competitive conditions had given rise to an insistent public demand for the exercise of governmental authority.

Section four contained the long and short haul clause, as it came to be known. This clause made it unlawful for any common carrier to charge more "in the aggregate for the transportation of

passengers or of like kind of property, *under substantially similar circumstances and conditions,*[1] for a shorter than for a longer distance over the same line, in the same direction, the shorter being included within the longer distance." It was provided, however, that the Interstate Commerce Commission, created by section eleven of the act, might, after investigation of an application for relief by the carrier, in special cases authorize carriers to charge less for longer distances than for shorter distances; and might from time to time prescribe the extent to which carriers could be relieved from the operation of this section.

The long and short haul clause represents a particular application of the general prohibition in the third section of undue preference to any locality. This clause was embodied in the act because the charging of higher rates to the local, noncompetitive points was very common and had aroused much bitterness. Indeed the House of Representatives wanted to make the prohibition of a higher rate to the nearer point absolute, and it yielded with great reluctance to the insistence of the Senate that the Commission be empowered to authorize departures therefrom in special cases. The long and short haul clause, it may be noted, stated no new legal rule; in a number of states such clauses had long been in effect.

Section five forbade pooling. It made it unlawful for common carriers to enter into any contract, agreement, or combination for the pooling of freights or for the division of the aggregate or net proceeds of their earnings.

The prohibition of pooling was also found in a number of state statutes. This provision was doubtless incorporated in the federal act from a fear lest the railroads, if allowed to enter into pools, would observe the long and short haul clause by raising the through rates rather than by reducing the local rates; and it was anticipated and hoped that the act of 1887 would result in lower as well as less discriminatory rates. However, there was great opposition to the prohibition of pools, it being maintained that the railroads could much more easily abolish rate discriminations if they were allowed to enter into pooling agreements. The Senate vigorously opposed the unconditional prohibition of pooling, but finally yielded upon the insistence of the House.

Section six dealt with the public posting of rates and fares, and

[1] Italics supplied by the author.

with changes therein.[1] It required every carrier to print schedules showing its rates and fares, and to keep them available for public inspection at every depot or station on its line. No advance might be made in the published rates except after ten days' notice. Reductions might be made without previous notice, but whenever a reduction was made, the public was to be notified immediately.[2] Copies of the published schedules of rates and fares had to be filed with the Interstate Commerce Commission; and no carrier might charge any more or less for the transportation of passengers or property than was specified in the published schedules.

Section seven made it unlawful for any carrier to enter into any combination, contract, or agreement to prevent, by change of time schedule or other device, the carriage of freight from being continuous from the place of shipment to the place of destination.

Sections eight, nine, and ten contained the general penalties of the act. These embraced suits for damages by the persons injured through the violation of the act by the carrier, and fines payable to the government by the offending carrier, or, if the carrier was a corporation, by the director, officer, or agent who violated the act. The fine was recoverable only upon conviction of the offending party in the courts, and might not exceed $5000 for each offence. Two years later (in 1889) the penalty of imprisonment[3] was added for certain offences, such as unlawful discrimination in the charges for the transportation of passengers or property, false billing, false classification, and similar devices. The penalty of imprisonment for false billing, false classification, etc., applied to the shipper as well as to the carrier.[4] Scattered references to additional penalties were found in other sections of the act.

Section eleven created the Interstate Commerce Commission, an administrative agency to which Congress delegated important powers. The Commission consisted of five members, appointed

[1] Section six was amended in certain particulars by an act passed on March 2, 1889 (25 Statutes at Large, pp. 855–863).

[2] By the amendment of March 2, 1889, three days' notice of a reduction was required.

[3] It lay within the discretion of the court to say whether the penalty of imprisonment should constitute an alternative or an additional punishment.

[4] The mere receipt of a rebate by a shipper, provided it was not secured through false billing, false classification, etc., does not appear to have been forbidden by the act of 1889.

by the President, with the consent of the Senate. Not more than three of the commissioners might be from the same political party. No person in the employ of any common carrier, or pecuniarily interested therein, by stock ownership or otherwise, was eligible for appointment. The commissioners might not engage in any other business or employment. The term of office was six years, but a commissioner could be removed by the President for inefficiency, neglect of duty, or malfeasance in office.[1] The salary was fixed at $7500 (section eighteen). The Commission was to make an annual report to the Secretary of the Interior containing information of value and embodying recommendations as to such additional legislation as the Commission might deem necessary (section twenty-one). By this section the Commission was made subordinate to one of the cabinet heads. In 1889 this section was amended to provide that these reports should be submitted direct to Congress, and thereafter the Commission enjoyed an independent status.

The provision for a commission was due to the insistence of the Senate. The House opposed a commission from a fear lest it would use the discretionary power vested in it to the detriment of the public welfare. The subsequent course of events showed this fear to be unfounded; and the Commission, whose creation was regarded as a favor to the railroads, did more in the course of time to make railroad regulation effective than any other factor.

Section twelve gave the Commission authority to inquire into the management of the business of common carriers. The Commission was given the right to obtain from them such information as it needed to perform its duties under the act; and to this end it was empowered to require the testimony of witnesses and the production of all books, papers, contracts, and agreements relating to any matter under investigation. The claim that any such testimony or evidence might tend to criminate the person giving it was not to excuse the witness from testifying, but the testimony or evidence might not be used against the witness on the trial of any criminal proceeding. The aid of the courts of the United States might be invoked by the Commission, if necessary to secure compliance with these provisions.

Sections thirteen to sixteen dealt with investigations made by

[1] No President has yet found it necessary to exercise this power of removal.

the Commission upon complaint or upon its own motion, and provided a procedure for dealing with the matters complained of. Section thirteen provided that if any one made complaint to the Commission that the act had been violated, the Commission should forward a statement of the charges to the common carrier complained of, and unless the carrier satisfied the complainant the Commission should make an investigation in such manner as it deemed proper. No complaint was to be dismissed by the Commission because of the absence of direct damage to the complainant. The Commission might also make an investigation on its own motion, even though no complaint had been made. The purpose of section thirteen was to facilitate the settlement of disputes and controversial matters without an appeal to the courts. Section fourteen provided that whenever an investigation was made by the Commission it should make a report in writing in respect thereto, which should include its findings of fact together with its recommendation as to the reparation, if any, to be made by the carrier to the injured party; and such findings should be *prima facie* [1] evidence in all judicial proceedings as to every fact found. Section fifteen provided that if in any investigation it appeared to the Commission that the carrier had violated the act or that any damage had been sustained by the complaining party, the Commission should so report to the carrier, and order it to desist from such violation or to make reparation, or both; and if the carrier obeyed the order, it should thereupon be relieved from further penalty for that particular violation of law. Section sixteen described the manner of enforcement of the order of the Commission in the event that its order was disobeyed by the carrier. The procedure in the event of disobedience was for the Commission, or any one interested in the order, to apply to the proper federal court for an enforcing order. The court was directed to hear the matter speedily, and if it appeared that the lawful order of the Commission had been disobeyed the court might issue a writ of injunction enjoining obedience by the carrier to the order of the Commission.

Section twenty dealt with annual reports by common carriers. It authorized the Commission to require annual reports from carriers, the reports to contain detailed information with regard to numerous matters specifically mentioned in the section. The

[1] Italics supplied by the author.

Commission was empowered to fix the time and prescribe the manner in which the reports should be made; and to require specific answers to all points upon which it might need information. The Commission was also given power to prescribe a uniform system of accounts to be observed by all carriers, if in its opinion it was practicable to prescribe uniformity of accounts.

The remaining sections of the act dealt with miscellaneous matters that do not require mention here.

Judicial Interpretation

The Interstate Commerce Commission provided for in section eleven of the act was organized on March 31, and it entered at once upon the discharge of its duties. It found its task lightened during the early years of its administration by the fact that the railroads generally endeavored to comply with the provisions of the law and with the orders of the Commission. As a result many discriminations were eliminated; railway tariffs were revised and simplified; a greater degree of uniformity in classification was secured; pools were dissolved or reorganized; and improvements were made in the collection of statistics and in the keeping of accounts.

But not for long did this satisfactory state of affairs continue. Certain railroad officials and shippers in testifying before the courts and the Commission refused to answer leading questions; the Commission encountered numerous obstacles in the enforcement of its orders by the courts; and finally the Supreme Court held that the Commission had neither the power to prescribe a maximum rate for the future nor to establish a reasonable relationship between rates. In consequence the Commission found itself without the authority that was requisite to successful regulation.

The first serious opposition arose over the power of the government to compel witnesses to testify. In 1890 Mr. Charles Counselman, a shipper, when questioned by a grand jury investigating alleged violations of the acts of 1887 and 1889, refused to say whether or not during the previous year he had obtained on interstate shipments of grain a lower rate than the regularly published tariff. Mr. Counselman claimed that he was not obliged to answer, because the fifth amendment to the Constitution declared that "no person . . . shall be compelled in any criminal case to

be a witness against himself." The lower court, to which the matter was referred by the grand jury, ordered Mr. Counselman to answer. This court held that the witness was sufficiently protected by section 860 of the Revised Statutes, which provided that a witness should not be excused from testifying because his testimony might tend to incriminate him, but that such testimony could not be used against him in any criminal proceeding. The case came upon appeal to the Supreme Court, which decided (in 1892) in favor of Mr. Counselman.[1] The Supreme Court held that section 860 of the Revised Statutes did not afford the witness that complete protection guaranteed by the Constitution. This section provided that his testimony might not be used against him in any criminal proceeding, but it did not afford him "absolute immunity against future prosecution for the offense to which the question relates." Thereupon Congress, in 1893, passed the Compulsory Testimony Act, which provided that in any criminal or other proceeding, based upon or growing out of an alleged violation of the act of 1887 (or its amendments), no person should be excused from testifying or from producing books and papers on the ground that the testimony or evidence might tend to incriminate him; but no person should be prosecuted on account of any matter concerning which he might testify or produce evidence in such proceeding.[2]

Notwithstanding the passage of this act certain persons, notably Mr. T. F. Brown, auditor of the Allegheny Valley Railroad, refused to answer questions put to them. The Brown case came to the Supreme Court upon appeal, and was decided in 1896 adversely to Mr. Brown. The Supreme Court held, by a vote of five to four, that the act of 1893 sufficiently satisfied the constitutional guaranty of protection against being compelled in any criminal case to be a witness against himself.[3] By this decision, then, the obligation of witnesses to testify and to produce evidence was fully established.

Prior to the decision in the Brown case the Supreme Court had rendered an important decision in the Brimson case, in which the right of the Commission to invoke the aid of the courts in securing the testimony of witnesses was involved. In 1892 the

[1] 142 U. S. 547–586.
[2] 27 Statutes at Large, pp. 443–444.
[3] 161 U. S. 591–638.

Interstate Commerce Commission had asked Mr. W. G. Brimson certain questions, which he refused to answer. The Commission, therefore, appealed to the courts, as provided for in the act. The lower court sustained Mr. Brimson in his refusal to testify, holding that so much of section twelve of the Interstate Commerce Act as authorized the courts to use their power in securing compulsory testimony before the Interstate Commerce Commission was unconstitutional, as imposing on the judicial bodies duties that were not judicial in nature. This argument, if valid, would have made it impossible for the Commission to secure necessary testimony; for the Commission had to depend upon the courts for the enforcement of its orders. The case was therefore taken to the Supreme Court, which, in 1894, by a vote of five to three, fully upheld the constitutionality of the procedure provided in the act.[1] By its decisions in these two cases—the Brimson case in 1894 and the Brown case in 1896—the Supreme Court removed the difficulties in the way of securing the testimony of recalcitrant witnesses, and established the positive right of the Commission to call upon the courts for the enforcement of its orders. But meanwhile this section of the act had been practically inoperative; and the final victory was won, it may be recalled, by a very narrow margin, the vote in the Supreme Court being five to three in the Brimson case, and five to four in the Brown case.

The Commission also encountered obstacles in the enforcement of its orders in the courts. The act of 1887, it will be remembered, gave the Commission no power to enforce its own orders. The Commission having made an order, the railroads obeyed it or not, as they chose; for they suffered no penalty and sustained no loss in the event that they decided to ignore the order. In the event of disobedience the procedure was for the Commission or other interested parties to apply to the appropriate court for a writ of injunction requiring the railroads to obey the order. The court was directed to hear the matter speedily, and if it found that the lawful order of the Commission had been disobeyed, the court *might* enjoin obedience upon the carrier. In this proceeding the court was privileged to make such inquiries as it deemed necessary to form a just judgment upon the controversy, but it was to treat the report of the Commission as *prima facie* evidence of the matters therein discussed.

[1] 154 U. S. 447–490.

In practice the procedure of enforcement proved very unsatisfactory to the Commission. In the first place, a considerable interval of time often elapsed between the order of the Commission and the order of the court enforcing obedience. Since the railroad was under no obligation to obey the order of the Commission, the burden of initiating action fell upon the Commission. The lower court to which the Commission applied might issue an order, but from this order the railroad might appeal to the Supreme Court. Unfortunately these orders of the Commission, often dealing with matters of great public importance, enjoyed no priority on the crowded dockets of the courts, and years often elapsed before the final pronouncement of the Supreme Court was given. The Commission in its annual report for 1897 stated that the average duration of the cases that had actually been prosecuted for the enforcement of its orders had been about four years. Others had been in the courts for more than twice this length of time. It is obvious that under such conditions shippers were discouraged from making complaints, and the railroads were encouraged to ignore them. As a result the Commission, so it stated, could command "neither the respect nor the obedience of those subject to its control."

In the second place, the courts refused to accept as final the evidence taken before the Commission. It had been supposed that the courts would review the questions of law raised by the orders of the Commission, but would not go behind the Commission's findings as to the facts, which findings, as the law provided, were to be *prima facie* evidence of the matters with which they dealt. Yet such was not the practice of the courts. Indeed the courts allowed the railroads to introduce new evidence that had not been submitted to the Commission. Thus it came about that the Commission in certain cases made its decision upon the basis of the facts presented to it, and the courts made a different decision upon the basis of the added facts that were presented to them, but that had been withheld from the Commission. Notwithstanding the possibility that the decision of both the Commission and the court may have been sound on the basis of the evidence before them, the effect of this practice was to discredit the Commission in the eyes of the undiscriminating public, not to mention the additional expense and delay that resulted from a duplication of the proceedings. Matters finally became so bad

that the Supreme Court in the Social Circle case (1896) took occasion to express its disapproval of the practice of the railroads in withholding testimony from the Commission.[1] But further legislation was required to place upon the railroads the duty of obeying the orders of the Commission or of establishing their illegality by appeal to the courts, and also required to expedite the decisions of the courts in the cases appealed to them.

These defects in procedure greatly embarrassed the Commission in its task of regulation. Yet they were not fundamental. Notwithstanding the difficulties under which it labored the Commission was able during the first ten years of its administration to effect the revision of many unreasonable and discriminatory rates. But in 1896 and 1897 there came a series of decisions by the Supreme Court that dealt with the Commission's rate making powers, and that went far, in the words of a member of the Supreme Court, toward making the Commission a useless body.

The Commission had disclaimed from the beginning any authority to fix rates in the first instance. It did believe, however, that the Act to Regulate Commerce gave it power to determine whether particular rates were unreasonable, and when they were found to be unreasonable to prescribe a maximum rate to be observed by the railroads in the future. Of the 135 formal orders entered by the Commission during the first ten years of its life, slightly over half had prescribed a change in rates for the future. During this period no member of the Commission had ever officially questioned the existence of such power, and no defendant in his answer to charges of unreasonable rates had denied it.[2] But in 1896 in Cincinnati, New Orleans and Texas Pacific Railway Company *v.* Interstate Commerce Commission (commonly called the Social Circle case) the Supreme Court incidentally remarked that it did not find any provision in the Interstate Commerce Act that expressly, or by necessary implication, conferred upon the Commission the power to fix rates.[3]

This matter, referred to incidentally in the Social Circle case, was dealt with in great detail in Interstate Commerce Commission *v.* Cincinnati, New Orleans and Texas Pacific Railway Com-

[1] 162 U. S. 196.
[2] *Annual Report of the Interstate Commerce Commission*, 1897, p. 11.
[3] 162 U. S. 196.

pany, decided in May, 1897.[1] This case is commonly known as the Cincinnati Freight Bureau case or as the Maximum Freight Rate case, and we shall so describe it hereafter in order not to confuse it with the Social Circle case, the official title of which is so similar. The case has been described by the Commission as "perhaps the most important since the enactment of the act to regulate commerce." [2]

The issue in this case was a decision of the Commission ordering a reduction of the rates from Cincinnati and Ohio River crossings into the South, and specifying maximum rates for the future. The Supreme Court did not go into the merits of the case, but addressed itself to the question whether the Commission had the power to make the order. The conclusion of the Court was that it had not. The Court presented the following considerations: (1) The power to prescribe a tariff of rates for carriage by a common carrier is a legislative function, and not an administrative or judicial one; and it is a power of supreme delicacy and importance. (2) That Congress has transferred such a power to an administrative body is not to be presumed from any doubtful and uncertain language. The words efficacious to make such a delegation of power are well understood and have been frequently used, and if Congress intended to grant such power it can not be doubted that it would have used language open to no misconstruction. (3) Incorporating into a statute the common law obligation resting upon the carrier to make all its charges reasonable and just, and directing the Commission to execute and enforce the provisions of the act, does not by implication invest the Commission with power to exercise the legislative function of prescribing rates for the future. (4) Beyond the inference which irresistibly follows from the omission to grant to the Commission in express terms the power to fix rates is the clear language of section six, which recognizes the right of the carrier to establish rates, and to increase or reduce them, and which requires of the carrier merely that it publish its rates and file them with the Commission. These considerations convinced the court, it said, that the Commission had no power to prescribe the tariff of rates which should control in the future.[3]

[1] 167 U. S. 479–512.
[2] *Annual Report of the Interstate Commerce Commission*, 1897, p. 15.
[3] 167 U. S. 505–506.

By this decision the power of the Commission in passing upon the reasonableness of rates was limited to determining whether or not a particular rate was unreasonable. If its findings were sustained by the courts, the railroad might reduce its rates by a fraction of a cent. The Commission might then find this reduced rate to be unreasonable also, and a slight reduction might again be made by the railroad. It is obvious that no relief worth mentioning could be secured by this process, assuming that the railroads pursued obstructionary tactics. Notwithstanding the decision in the Cincinnati Freight Bureau case it was still possible for the shipper who had paid an excessive rate to sue the railroad for the difference between a reasonable rate and the rate that he had paid. For various reasons, however, this was seldom done. Sometimes the amount involved was too small to justify a law suit; at other times, even though the amount involved was considerable, the shipper did not care to antagonize the railroad; and in most cases the burden of an unreasonable rate had fallen upon the consumer, who was not privileged to sue, because he had not paid the freight rate to the railroad. The conclusion is that the damage of an unreasonable rate is irreparable, and the only remedy is to endow some agency with the power to prescribe rates for the future. The decision of the Supreme Court in the Cincinnati Freight Bureau case therefore made the enactment of further legislation imperative.

Though the Commission by the Cincinnati Freight Bureau case was held to be without the power to fix a maximum rate, it might still be held perhaps that it had authority, under the long and short haul clause, over the relationship of rates. But the decisions of the Supreme Court in 1896 and 1897 denied it this power also.

The first decision was in Texas and Pacific Railway Company *v.* Interstate Commerce Commission. The official title of this decision is also quite similar to the title of the Cincinnati Freight Bureau and Social Circle decisions, and we shall therefore refer to it hereafter as the Import Rate decision.

The issue here, so far as the long and short haul clause was concerned, was whether this clause, which forbade a lower rate for a long haul than for a short haul *under substantially similar circumstances and conditions*, forbade a lower rate for the long haul when the traffic originated in some other country. In a proceeding before the Interstate Commerce Commission it was shown

that the rates from American ports to interior cities of destination were often less on imported traffic than they were on domestic traffic, even though both kinds of traffic moved in the same train. Indeed it was shown that in some instances the rates from the foreign point of origin through our seaports to interior cities were actually less than the rail rates on domestic traffic of like kind from the same seaports to the same destination. To be more specific, in certain extreme cases it was shown that the rates on certain classes of goods from Liverpool to San Francisco through New Orleans were less than one-third of the rates on the same goods from New Orleans to San Francisco. The Interstate Commerce Commission declared these discriminatory rates to be illegal.[1] It held that in enforcing the act the Commission could not legitimately take into consideration the competitive circumstances and conditions relating to traffic originating outside of the United States; and consequently it could not sanction a system of rates that favored foreign traffic over domestic traffic, though the conditions affecting the carriage of these two kinds of traffic might be different. It therefore ordered the railroads not to accept any less as their share of the through rate on imported traffic than they charged on domestic traffic of like kind between the same points. The Commission was overruled, however, by the Supreme Court.[2] The latter held (in 1896) that the Commission should have taken into consideration *all* the circumstances and conditions that affected the traffic, and that among these circumstances was a competition that affected rates. If, therefore, competition was more active for the import traffic than for the domestic, the circumstances might be dissimilar, and lower rates on the import traffic might be justified. It is clear that this decision, by broadening the application of the words "under substantially similar circumstances and conditions," made more difficult the elimination of those discriminations that the Act to Regulate Commerce was designed to prevent.

The death blow to the Commission's power, however, was dealt in the decision of the Supreme Court in Interstate Commerce Commission *v.* Alabama Midland Railway Company, decided in November, 1897.[3] The question at issue here was: what factors

[1] 4 I. C. C. Reports 447–534.
[2] 162 U. S. 197–255.
[3] 168 U. S. 144–177.

created that dissimilarity of circumstances and conditions that relieved the railroads from compliance with the long and short haul clause? The Interstate Commerce Commission, in its decisions interpreting the long and short haul clause, had uniformly held that the competition of carriers not subject to the interstate commerce acts created such dissimilarity. These carriers included water carriers, foreign railways (Canadian and Mexican) not subject to the laws of the United States, and railroads with lines wholly in a single state. The Commission refused, however, to recognize the competition of interstate railways as creating a dissimilarity of circumstances, except in "rare and peculiar" cases. The economic justification for this refusal lay in the fact that railway competition at the more distant point and not at the nearer was the principal cause of local discrimination, and therefore a statutory provision that permitted local discrimination whenever it was caused by railway competition would be practically inoperative. The Commission took the position that Congress in legislating against the evil of local discrimination could not have intended such a result.

The Commission was overruled, however, by the Supreme Court, in the Alabama Midland case referred to above. The Supreme Court held that competition, including the competition of railways and trade centers, must be taken into consideration in determining whether or not conditions at the nearer and further point were similar. The Court did not hold that the mere fact of competition, no matter what its character or extent, necessarily relieved the railroads from the restraints of the long and short haul clause, but only that the matter of competition should not be excluded in determining what constituted dissimilar circumstances and conditions. As the Supreme Court said in a later case affirming its findings in this case, the law did not mean that one kind of competition should be considered and not another kind, but it meant that all competition, provided it was not artificial or merely conjectural but produced a substantial effect upon rates, might properly be taken into consideration.[1] The Commission interpreted the decision in the Alabama Midland case to mean that if circumstances at the more distant and the nearer point were dissimilar the railroads might without restraint depart from the long and short haul rule, and was sustained in this

[1] 175 U. S. 648–676 (1900). See also 181 U. S. 1–29 (1901).

interpretation by later decisions of the courts. The Commission declared that the decisions of the Supreme Court virtually repealed section four, because it was always possible to show, in view of the intricate commercial conditions, that circumstances were different at one point from another. The Commission was supported in its view by Justice Harlan of the Supreme Court. In dissenting from the decision of the majority in the Alabama Midland case, he held that that decision went far to make the Commission a useless body, and to defeat many of the important objects designed to be accomplished by the enactments of Congress relating to interstate commerce. The Commission was left, it was true, with power to make reports and issue protests, but it had been shorn, by judicial interpretation, of authority to do anything of an effective character.

REFERENCES

Annual Report of the Interstate Commerce Commission, 1887, pp. 10–41.

Dos Passos, J. R.: *The Inter-State Commerce Act* (1887).

Meyer, B. H.: *Railway Legislation in the United States*, part III, chs. 1, 3 (1903).

Noyes, W. C.: *American Railroad Rates*, pp. 103–116, 145–154 (1905)

Ripley, W. Z.: *Railroads: Rates and Regulation*, chs. 13–14 (1912).

CHAPTER XII

THE HEPBURN ACT OF 1906

Conditions that Gave Rise to a Demand for Further Legislation

By the decisions of the Supreme Court in the Cincinnati Freight Bureau case and the Alabama Midland case it was made abundantly manifest that further legislation was necessary, if the purposes of Congress were to be achieved, and the railroads were to be brought under effective regulation. There were other factors, however, that directed public attention to the railroads, and that strengthened the demand for additional legislation.

One factor that played a large part was the initiation in the late nineties of a far-reaching movement toward railroad combination. The act of 1887, it will be recalled, had forbidden pooling—an arrangement whereby the railroads had brought under restraint a competition that was sufficiently severe to be characterized as ruinous. After pooling was made illegal the railroads, in order to hold competition within bounds, resorted to agreements to fix or maintain rates. Such agreements were not pools, and were therefore not forbidden by the Act to Regulate Commerce. But the Supreme Court held in 1897 and 1898 that these agreements were forbidden by the Sherman Anti-trust Act of 1890, which made illegal every contract, combination, etc., in restraint of trade. These decisions were soon followed by the establishment of huge combinations that were a much greater menace to the public welfare than the less ambitious devices that had preceded them. Naturally the people became alarmed, and demanded that the government exercise its authority over railroads and their charges.

The dangers from the new combinations were intensified by the circumstance that their control was concentrated in the hands of a few individuals. An investigation made in 1905 established the fact that a majority of the board of directors of practically every railroad east of the Mississippi River could be made up from a list of thirty-nine persons. One of the most striking examples of the

concentration of power was Mr. E. H. Harriman, a railway magnate whose ambition appeared to recognize no bounds. Mr. Harriman had acquired the Union Pacific Railroad in 1897 and the Southern Pacific in 1901. Testifying before the Interstate Commerce Commission in 1906, he said that were it not for the Sherman Anti-trust Act he would take the Atchison, Topeka and Santa Fe "to-morrow;"[1] and that the same law was all that kept him from buying the Northern Pacific and the Great Northern, not to mention railroads on the Atlantic Coast. The people were not oblivious of the dangers inherent in such huge, uncontrolled combinations; and they favored bringing them more effectively under national control.

The pressure for further legislation received a decided impetus as the result of the marked advances in freight rates that took place after 1899. When the railroad combinations were being effected the financiers assured the public that railway rates would not be advanced; indeed, rates would be reduced, if anything, because of the economies of combination. Yet such is not the usual operation of unregulated monopoly; and the outcome was merely what might have been anticipated. Throughout the early years of the twentieth century, therefore, rates were considerably advanced. The increase was brought about through an actual advance in the published rates, particularly commodity rates; through changes in the Classification, articles being placed in a higher class, or being denied commodity tariffs and thus forced to move under class rates; and through the maintenance of the published rates, rebates from which had cut seriously into the railroad revenues during periods of intense competition. These advances in rates, almost without exception, were the result of concerted action by the railroads. The advances in competitive rates were uniformly made effective by all the railroads on the same day and for exactly the same amount.[2] As a rule the railway officials did not deny that they had acted in concert, but they maintained that there had been no illegal agreement. Yet whether there had been an illegal agreement or not, the significant feature of the advances was that the people had no adequate means of protecting themselves against the injury resulting from the higher level of charges.

Finally, there was grave concern lest a monopoly in transporta-

[1] 12 I. C. C. Reports 280.

[2] *Annual Report of the Interstate Commerce Commission*, 1903, p. 15.

tion be accompanied by a monopoly in manufacture. The trust movement that began in 1898 and that was at its height in 1899 was based in part—and no inconsiderable part—on favors in railway rates. The railway officials argued, and with reason, that there was less likelihood of discrimination in favor of the larger shippers under a régime of railroad combination than under a régime of railroad competition, but the public was sufficiently unconvinced to desire the enactment of further legislation.

Notwithstanding the existence of these factors that made action by Congress desirable, no far-reaching legislation dealing with railroads was enacted until 1906.[1] Meanwhile (in 1903) Congress passed two laws that require brief mention.

The Expedition Act

The first of these was the Expedition Act, passed on February 11.[2] This act was designed to expedite the hearing and determination of cases arising under the Act to Regulate Commerce (and the Sherman Anti-trust Act), and thus to reduce the delay that had seriously hampered the Interstate Commerce Commission in the enforcement of its orders. The act required the circuit courts of the United States to give precedence to, and to expedite in every way, suits in equity arising under the interstate commerce and anti-trust acts, when the United States was a complainant, and when the Attorney General certified that the suits were of general public importance; and it further provided that appeals, if taken at all, must be taken direct to the Supreme Court, and within sixty days from the entry of the decree of the circuit court.

The Elkins Act

The second law was the Elkins Act, passed on February 19.[3] The purpose of this act was to prevent entirely discriminations between persons. The acts of 1887 and 1889 had practically eliminated cash rebates of the simpler type, but despite the prohibitions contained in these laws rebating devices of one kind or another were exceedingly common. The principal beneficiaries of these practices were the larger shippers, and particularly the combina-

[1] Between 1893 and 1911 Congress passed a number of laws designed to increase the safety of railroad operation. These laws will be described in ch. 19.

[2] 32 Statutes at Large, part I, p. 823.

[3] Ibid., pp. 847–849.

tions and trusts, many of which derived their power in large measure from railway favoritism. The gain of the trusts was at the expense of the railroads, and it was largely to conserve the shrinking revenues of the latter that the Elkins Act was passed. As Mr. Prouty, a member of the Interstate Commerce Commission, said in 1905, the Elkins Act was a railroad measure, conceived by them, passed by them, and in their interest; and it had put more money into their treasuries than any event of recent times.[1] The Elkins Act, though put through by the railroads, was also in the public interest, as tending to bring about equality of treatment between shippers; and Mr. Prouty so viewed the measure. But the point to note is that the act was passed because the railroads, which then dominated Congress, wanted it; and not because the people wanted it. It was not until 1906 that the people asserted their authority, and forced Congress to pass the Hepburn Act, which, because it was in the public interest rather than in the interest of the railroads, met with the determined resistance of the latter.

The provisions of the Elkins Act may be summarized under five headings. (1) The act made the published tariff the standard of lawfulness. The act of 1887 had required the railroads to publish their interstate rates and to adhere to the rates as published. Yet the penalty for disobedience was a fine of not more than $5,000 for each offence; and in practice only nominal fines were levied. The amendment of 1889 added the penalty of imprisonment, but this did not apply to a departure from the published rate unless it was accompanied by actual discrimination between shippers. And to establish the fact of discrimination between shippers the government had to show not merely that the railroad had allowed a particular shipper a rebate by one device or another, but also that it had not allowed equal rebates to other shippers. In practice this proved difficult to establish; and successful prosecutions were therefore few. To meet this defect of the law, the Elkins Act provided that whenever any carrier filed with the Interstate Commerce Commission or published a particular rate, that rate should "be conclusively deemed to be the legal rate," and any departure therefrom should be an offense. By this provision a departure from the published tariffs was made a *conclusive* test of discrimination, and the fact of discrimination was thus made much easier to prove.

[1] *President Roosevelt's Railroad Policy*, p. 6.

(2) Railroad corporations, as well as their officers and agents, were made liable for violation of the interstate commerce acts. The act of 1887 had imposed penalties only upon the officers or agents of the offending corporations. This was unfair because it protected the principal and beneficiary of an illegal transaction, and punished the agent—possibly a minor official. It was so unfair that successful prosecutions were rendered difficult. Accordingly the Elkins Act made the corporation liable as well as its agents.

(3) The shippers receiving rebates, as well as the railroads granting them, were subjected to the penalties of the law. The act of 1887, as amended in 1889, had provided the penalty of imprisonment for shippers who by false billing and false classification obtained transportation for their property at less than the established rates; but there seems to have been no penalty upon the shipper when he received a rebate as the result of the competition of the railroads for his business, and not as the result of a fraud upon the railroads. This omission was unfortunate, since the pressure brought to bear upon the railroads by the larger shippers was mainly responsible for the prevalence of rebates. The Elkins Act, in establishing the legal rule that it was as unlawful to accept a rebate as to give it, thus effected a distinct improvement.

(4) The penalty of imprisonment for a violation of the law was eliminated. Rebating practices being essentially secret, evidence as to their existence could seldom be obtained except from persons who had connived therein. It was argued that the testimony of those who had knowledge of these practices could be secured more easily, if the effect of this testimony was not to send the parties thereto to jail. In this way, it was said, the evil could be dealt with more effectively. It was also argued that the officer or agent of the railroad who gave a rebate to secure more traffic for his principal should not be punished more severely than the railroad, which can not be sent to jail. As a partial offset to the removal of the penalty of imprisonment, the maximum fine was raised to $20,000, which was four times greater than the maximum fine provided in the act of 1887.

(5) Probably the most important provision was that conferring jurisdiction upon the courts to enjoin violations of the law. The act provided that whenever the Interstate Commerce Commission had reasonable grounds for believing that any carrier was engaged

in transporting freight or passengers at less than the published tariffs, or was committing any discrimination forbidden by law, it might present a petition alleging such facts to the appropriate circuit court. It was made the duty of the court to inquire into the circumstances, and, upon being satisfied of the truth of the allegations of the petition, to enforce an observance of the published tariffs, or to require the discontinuance of the discrimination. The orders of the courts might be enforceable against the shippers as well as against the carrier. It was made the duty of the district attorneys of the United States, when so directed by the Attorney General, either upon his own motion or upon the request of the Interstate Commerce Commission, to prosecute such proceedings; and in such proceedings when begun under the direction of the Attorney General in the name of the Interstate Commerce Commission the Expedition Act of 1903 should apply.

The Interstate Commerce Commission welcomed this act as "a wise and salutary enactment." While the Commission did not expect rate cutting and other secret devices to disappear immediately and wholly, it expressed the view in its annual report at the close of 1903 that "never before in the railroad history of this country have tariff rates been so well or so generally observed as they are at the present time."

The Hepburn Act

The Elkins Act, valuable as it was, did not deal with the fundamentals of the rate controversy. It required the observance of the published tariffs, but it gave the Interstate Commerce Commission no more authority than before to correct the published rates when they were found to be unreasonable or discriminatory. For such authority the Commission had long pleaded, but in vain. The organization of extensive railroad combinations, the concentration of their control in a few hands, the exaction of monopolistic railway charges, and the favoritism shown to industrial combinations and trusts—all created a public opinion favorable to the Commission's view. In response to this opinion President Roosevelt in his annual message of December, 1904, recommended effective railroad regulation. The House of Representatives promptly passed, in February, 1905, a bill giving the Commission power to prescribe rates for the future in place of rates found to be unreasonable or discriminatory. The vote in the House was

326-17. The Senate, dominated by railroad influence, pursued a policy of delay. As a means of withholding action it directed its Committee on Interstate Commerce to make an investigation; and a mass of testimony was taken that clearly showed the need of legislation increasing the powers of the Commission.

President Roosevelt repeated his recommendations in his annual message of December, 1905; and the House even more promptly enacted the desired legislation. The vote in the House on this occasion was 346-7. The popular demand for railroad legislation was thus demonstrated in overwhelming fashion. Yet the Senate might have ventured to resist this demand had it not been for a series of events that directed public attention to railroad and other abuses, and made submission seem advisable. These events included disclosures of "wilful and continuous" rebates by the Atchison, Topeka and Santa Fe Railroad; the insurance investigations in New York state under the leadership of Charles E. Hughes; the anthracite coal strike; the Pennsylvania Railroad coal-car scandals; the report of the Commissioner of Corporations on the Transportation of Petroleum, establishing the fact of continued favors to the Standard Oil Company; the revelations of unsanitary conditions in the meat-packing industry; and, finally, a serious congestion in railroad service. In view of these circumstances the Senate yielded; and once the passage of the bill was made certain, many Senators, who would have voted against the bill had there been any prospect of defeating it, endeavored to ingratiate themselves with their constituents by voting for it on the final roll call. As a result the Hepburn bill, as it was called, passed the Senate by the large majority of 71-3. The recorded vote in the Senate thus gave little indication of the intensity of the struggle waged against the bill, which became law on June 29, 1906.[1] To a description of the principal changes effected in our railroad law by this measure we now turn.

Organization of the Commission

The Interstate Commerce Commission was made a larger and more important body. The number of commissioners was increased from five to seven; the term of office from six years to seven; and the salary from $7,500 to $10,000. Not more than four of the commissioners might be from the same political party.

[1] 34 Statutes at Large, part I, pp. 584–595.

Extension of the Commission's Jurisdiction

The scope of federal control was considerably extended. Express companies and sleeping-car companies were declared to be common carriers, and were thus brought under the jurisdiction of the Commission. In the eyes of the law express companies had long been regarded as common carriers, but the Commission had declined to exercise control over them on the ground that its authority to do so was not made sufficiently explicit by the act of 1887.[1] The Hepburn amendments definitely gave the Commission this authority. Pipe-lines for the transportation of oil or any other commodity (except water and gas) were also made subject to the provisions of the act when they were in fact common carriers. Pipe-lines were included mainly because the Standard Oil Company, having secured a practical monopoly of the pipe-line system of transportation, had refused to recognize its obligation as a common carrier. The Standard had charged the independent refiners of petroleum (with whom it competed) rates on the transportation of crude petroleum by pipe-line that were so excessive as practically to prevent the use of the pipe-lines by the independent refiners. By thus forcing the independent refiners to ship their crude oil by railroad, or else locate their refineries near the crude oil deposits rather than near the consuming market, the Standard had seriously and improperly hampered the development of their business.[2] Notwithstanding the provisions of the Hepburn Act, the Standard Oil Company still refused to accept the obligations of a common carrier, alleging that the act was unconstitutional; but in 1914 the Supreme Court fully upheld the constitutionality of the act,[3] and thereafter the Standard Oil Company was obliged to recognize the jurisdiction of the Commission.

The jurisdiction of the Commission was extended also by a more comprehensive definition of "railroad" and "transportation." The act of 1887 applied to common carriers engaged in the transportation of passengers or property wholly by railroad, or partly by railroad and partly by water. The term "railroad"

[1] See *Annual Report of the Interstate Commerce Commission*, 1887, pp. 12–15.

[2] On this topic, see the author's *The Trust Problem in the United States*, pp. 66–72.

[3] 234 U. S. 548.

was defined to include all bridges and ferries used in connection with a railroad. The act of 1906 provided that it should also include switches, spurs, tracks, terminal facilities, freight depots, and yards. The term "transportation" in the act of 1887 included "all instrumentalities of shipment or carriage," but by the amended act it included cars and other vehicles and all instrumentalities and facilities of shipment or carriage, irrespective of ownership or of any contract for their use, and all services in connection with the receipt, delivery, elevation, transfer, ventilation, refrigeration, storage, and handling of property transported.

Accounts

The accounting provisions of the act supplied a fundamental basis for the enforcement of the thorough-going scheme of Federal regulation provided for by the Hepburn amendments. The act of 1887 had authorized the Commission to require the railroads (and other common carriers) to make annual reports, to answer specific questions put to them, and to adopt a uniform system of accounts. In the enforcement of these provisions, however, the Commission was greatly hampered by the fact that it had no authority to inspect and audit the accounts of railroad companies, and by the fact that the means of enforcement were inadequate. Mandatory provisions were thus sadly needed, and these the Hepburn Act supplied. As one author has put it, the new section granted to the Commission "all that the most ardent advocate of publicity of accounting could desire."

The Hepburn Act provided that the detailed annual reports to be rendered by all common carriers subject to the act should be made under oath, and be filed with the Commission within three months after the close of the year to which they apply. The Commission might call, not only for annual reports, but also for monthly reports of earnings and expenses, and for special reports to be made within a specified period. The Commission might, in its discretion, prescribe the forms of all the accounts, records, and memoranda to be kept by carriers; and no other accounts, etc., might be kept than those prescribed or approved by it. The Commission was to have access at all times to the accounts; and it might employ special examiners with authority to inspect and examine them. Penalties varying from $100 to $500 per day were provided for violations of the foregoing provisions. Much severer

penalties, including imprisonment, were provided for persons who willfully made false entries, who willfully neglected to make full and correct entries, who willfully destroyed or mutilated the records, or who kept any accounts other than those approved by the Commission; and were provided also for examiners of the Commission who divulged any information that came to their knowledge during their examination of the accounts, except in so far as they were directed by the Commission or by the courts to do so. Moreover, the courts were given jurisdiction to issue a writ commanding common carriers to comply with the provisions of this section.

These accounting provisions were certain to prove very helpful in carrying out the purpose of Congress to make the railroads truly public service corporations. It would be difficult to enumerate all of the gains to be expected therefrom, but certain outstanding advantages may be mentioned. (1) With the publication of full and uniform accounts the power of rate making conferred on the Commission by the Hepburn Act could be more satisfactorily administered. (2) Rebating devices could be more readily uncovered. (3) The efficiency of railroad operation could be promoted, partly because the railways would possess completer details of their operation, but in larger measure because they would be able to compare the results of their operation with those of other railroads. (4) The interests of investors, always likely to be jeopardized by secrecy, could be better protected. (5) Controversies with labor could be settled more equitably.

Discriminations

It had been hoped that the Elkins Act would practically eliminate rebates, but it was established by the testimony before the Senate Committee on Interstate Commerce in 1905 that it had not succeeded in doing so. Accordingly there was inserted in the Hepburn Act a number of provisions that increased the power of the Commission to deal with discriminatory practices as they had been disclosed by experience. Among these provisions were the broader definitions given to the terms "railroad" and "transportation." One of the rebating devices employed after the passage of the act of 1887 was the industrial railway, as explained in the chapter on Personal Discrimination. These industrial railways were now definitely brought under the control of the

Commission by defining the term "railroad" so as to include switches, spurs, tracks, and terminal facilities of every kind. Moreover, the Commission was empowered to determine a proper switching charge for the service performed by the industrial railway, and to determine the proportion of the joint rate that should go to it. By this means the Commission could prevent the railroads from making excessive payments to the industrial railway, and thus through it to the large shipper that owned its stock. To reduce still further the possibility of discrimination, the act provided that upon the application of any branch line or of any shipper of interstate freight the railroads should construct a switch connection with the branch line or private side track, when such connection was reasonably practicable and would be profitable to the railroad.

Another common rebating device was the use of private cars. The ownership of these cars by shippers was by no means due solely to a desire on their part to secure transportation favors, yet the possibility of utilizing the cars in this way was realized by the shippers, and made use of, especially by the larger and more powerful ones. To check this evil the term "transportation" was defined to include "cars and other vehicles and all instrumentalities and facilities of shipment or carriage." Moreover, the private car lines, which had often made exorbitant charges for refrigeration and other services, were forbidden to charge any more than was reasonable.

These and other rebating devices were dealt with more effectively, it was believed, by changes in the penalties. The Elkins Act was amended to provide that both the giver and the receiver of a rebate should, upon conviction, be punished by a fine of not less than $1000 nor more than $20,000; and that they should be liable, in addition, to imprisonment for a term of not more than two years. Moreover, the receiver of a rebate should, in addition to the other penalties of the act, forfeit to the Unites States a sum of money equal to three times the value of the rebates enjoyed by him during the six years prior to the commencement of an action against him by the United States. The restoration of the penalty of imprisonment, the removal of which by the Elkins Act was believed to have been a mistake, and the provision for three-fold damages were designed to strike terror into the hearts of law breakers, and would obviously do so if vigorously applied.

Another provision in the law directed against discrimination was the so-called commodity clause.[1] A number of railroads, especially the anthracite and bituminous coal roads, were engaged in enterprises along the line of their railway. Had the railroads confined themselves to their normal function—transportation—they would have been whole-heartedly interested in the development of the business of the shippers along their respective lines, since the prosperity of the railroads would have depended on the prosperity of their shippers. Yet when the railroads were in competition with the producers along their lines, they found it to their interest to charge these producers exorbitant rates and to deny them adequate facilities, in order that they (the railroads) might enjoy a profit in production as well as in transportation. From such considerations it is clear that the businesses of transportation and production should be separated; that the railroads should be forbidden to have any interest that conflicts with their duty to supply shippers with satisfactory service upon reasonable and equal terms. It was therefore provided by the commodity clause that after May 1, 1908, no *railroad*[2] should transport in interstate commerce any commodity, other than timber and its manufactured products, produced by it, or under its authority, or which it owned in whole or in part, or in which it had any interest, direct or indirect, except such commodities as were necessary for its use in the conduct of its business as a common carrier. Though the purpose of Congress was perfectly well-known, and though the language of the clause was apparently definite and comprehensive, the courts interpreted the clause in such a way as to make it ineffective. As a result, though a number of railroads disposed of their coal properties in deference to public opinion, a large number defied public opinion, and continued to engage in the businesses from which Congress meant to exclude them.

Finally, the law dealt with passes, by means of which the railroads had discriminated between passengers. The act of 1887 did not forbid passes, though the Commission held in certain instances that passes were illegal (except when authorized by sec-

[1] On this subject, see the author's *The Anthracite Coal Combination in the United States*, especially pp. 187 seq.

[2] Most of the provisions of the Hepburn Act applied to common carriers, but the commodity clause applied only to railroads.

tion twenty-two of the act of 1887)[1] as constituting a discrimination between persons and an undue preference, both of which were forbidden by the act of 1887. The Hepburn Act dealt definitely with this abuse. It forbade any common carrier, directly or indirectly, to give any interstate free transportation to passengers, except to certain classes specifically enumerated in the act. These classes included officers and employees of the railroads, and their families; employees of associated businesses, such as the sleeping car, express, telegraph, telephone, and post office; persons engaged in religious and charitable work; and persons too poor to pay the going fare. The penalty for a violation of this prohibition was a fine of not less than $100 nor more than $2,000, the penalty to apply to both the common carrier and the passenger. The prohibition of passes was a wise provision, since the principal reason the railroads gave passes was to favor their friends, and persons in positions of influence, such as editors, legislators, and judges. The railroads sustained a considerable loss in revenue as the result of the distribution of passes, but this was unimportant as compared with the debauching of the public morals.

Rates

Probably the most important provision of the act was that conferring upon the Commission authority to prescribe maximum rates. The Commission had exercised such authority during 1887 to 1897, in the sincere belief that the power to fix rates had been given to it by the act of 1887. But the Supreme Court in 1897 (in the Cincinnati Freight Bureau case) held that the act gave the Commission no such power. Thereafter (until 1906) the Commission's authority over rates was confined to a determination of whether particular rates were unreasonable or not, but with no right to substitute reasonable rates for those determined to be unreasonable. Notwithstanding the decision of the Supreme Court the shipper still had the privilege of suing the railroad for the damages occasioned by rates found to be unreasonable. Yet this was an inadequate remedy, partly because the amount of the damages was often too small to justify a suit against a powerful corporation enjoying high-priced legal talent, and partly because the burden of the unreasonable rates was usually passed along to the consumer, who had no standing in court because he had not paid the excessive

[1] Cf. p. 216.

rates *to the railroad.* The conclusion is unavoidable that the damage of unreasonable rates is irreparable. Therefore, the demand had long been insistently made that the Commission be authorized to fix the rates to be charged in the future, yet without success until 1906.

The Hepburn Act provided that whenever, after full hearing and upon complaint, the Commission should be of the opinion that the rates of common carriers, or their regulations and practices affecting such rates, were unjust or unreasonable or unjustly discriminatory or unduly preferential, it was empowered to prescribe the maximum rates, and the regulations and practices, thereafter to be observed. The orders of the Commission (except orders for the payment of money) were to take effect within not less than thirty days and to continue in force for not more than two years, unless suspended or set aside by the Commission or the courts. In the Senate the constitutionality of this delegation of rate making power to the Commission was attacked by the railroad Senators, yet without success; and its constitutionality has since been fully affirmed by the Supreme Court.

The Commission was also authorized, under certain conditions, to establish through routes, the maximum joint rates to apply on such through routes, and the division of such joint rates among the railroads party thereto. It was also empowered to determine the maximum charge to be paid by a carrier for any service rendered or any instrumentality furnished by the owner of property transported by the carrier. This clause gave the Commission full power to prevent a railroad from giving a rebate to a shipper through the payment of an excessive rental for the use of his cars. However, such practices were prohibited also by the general prohibition of rebating, by any device whatsoever, found elsewhere in the act.

The Hepburn Act retained the provisions of earlier acts requiring publicity of rates, but amended them in several ways. The requirement that joint rates be published was made more effective; and the requirement that storage and icing charges be published was added. Moreover, carriers were forbidden to engage in transportation until they had filed and published their rates as required by the act. Changes in the published tariffs could be made only after thirty days' notice, instead of ten days' notice of an advance and three days' notice of a reduction, as in the act of 1889. However, the Commission was authorized to allow changes in rates

upon less than thirty days' notice for good cause, and also to modify the requirements as to the filing and publishing of tariffs.

Procedure of Enforcement

The orders of the Commission, it was stated above, were to take effect within not less than thirty days and to continue in effect for not more than two years. If any carrier failed to obey an order of the Commission, other than an order for the payment of money,[1] the Commission or any injured party might apply to the circuit court for the enforcement of the order. If the court found that the order of the Commission had been "regularly made and duly served," it was directed to enforce obedience to the order by a writ of injunction or other proper process. This represented a great improvement over the act of 1887; for that act merely *authorized* the court to enforce obedience by the carrier to the Commission's order. The act of 1906, however, *directed* the court to enforce the Commission's order, providing it was "regularly made and duly served." From the decision of the circuit court either party might appeal to the Supreme Court, but an appeal was not to vacate the order appealed from. In the Supreme Court the case was to have priority in hearing and determination over all other cases except criminal cases.

In another respect the Hepburn Act improved the method of procedure. Until 1906 the orders of the Commission had absolutely no binding force; not until the court had enjoined the carrier against disobedience did any penalties lie. The act of 1906, however, made the orders of the Commission effective within such period, not less than thirty days, as was prescribed by the Commission, unless the orders were suspended by the Commission or by the courts. Moreover, the penalty for disobeying the order of the Commission was $5,000 for each offense. Every distinct violation was regarded as a distinct offense, and in the event of a continuing violation each day was to constitute a separate offense. If the carrier preferred the penalty to obedience, the Commission could apply to the court for the enforcement of the order, but this would seldom prove necessary. The carrier would either obey the order, or else endeavor to avoid penalty by requesting the circuit

[1] The procedure for the enforcement of orders involving the payment of money is described in section five of the Hepburn Act, amending section sixteen of the Act to Regulate Commerce of 1887.

court to suspend it. To safeguard the interests of the carriers the law expressly gave to the appropriate circuit court power to suspend or restrain the enforcement of the order of the Commission. But in order to preserve proper respect for the orders of the Commission it was provided that no court decree suspending or restraining the enforcement of an order of the Commission should be granted except on hearing after not less than five days' notice to the Commission. From this decree appeal might be taken direct to the Supreme Court, and the case was to be expedited as above.

From the foregoing provisions dealing with rates it is clear that Congress was determined to endow the Interstate Commerce Commission with sufficient power to subject the railroads to thoroughgoing governmental control. Despite the stubborn resistance of the railroad Senators, who argued for judicial regulation of railway rates, Congress adopted the principle of administrative control, the only means whereby effective control can be achieved. Yet it is equally clear that the ultimate jurisdiction of the courts was retained. The rates fixed by the Commission could still be suspended by the courts. Moreover, once the rates prescribed by the Commission had been suspended by the courts they were not to go into effect until their reasonableness had been judicially established. It was contended that the rates prescribed by the Commission, an agency of the government, should remain in effect until their *unreasonableness* had been judicially established; in other words that the Commission, presumably an impartial arbiter between the railroads and the shippers, should enjoy the benefit of the doubt. This contention would appear to be sound, yet it was not accepted, and in this regard the authority of the Commission was not made fully adequate. Nevertheless it is not to be doubted that it was the intention of Congress to establish a powerful governmental tribunal with whose orders the courts would interfere only when they were clearly beyond the powers which the tribunal could lawfully exercise. That Congress not only had this intention, but had also clearly embodied it in law, was made manifest by the interpretation that the act shortly received at the hands of the courts.

Judicial Interpretation

The most important decision interpreting the Hepburn Act was probably that in the Illinois Central case,[1] decided in January, 1910. In this case the Supreme Court said: "In determining whether an order of the Interstate Commerce Commission shall be suspended or set aside . . . this court must consider all relevant questions of constitutional power or right, all pertinent questions as to whether the administrative order is within the scope of the delegated authority under which it purports to be made, and also whether even if in form it is within such delegated authority it is not so in substance because so arbitrary and unreasonable as to render it invalid.

"Plain as it is that the powers just stated are of the essence of judicial authority . . . it is equally plain that such perennial powers lend no support whatever to the proposition that we may, under the guise of exerting judicial power, usurp merely administrative functions by setting aside a lawful administrative order upon our conception as to whether the administrative power has been wisely exercised.

"Power to make the order and not the mere expediency or wisdom of having made it, is the question." [2]

This opinion was reaffirmed in Baltimore and Ohio Railroad Company *v.* United States, decided on the same day.[3] A few months later, in Interstate Commerce Commission *v.* Chicago, Rock Island and Pacific Railway Company, the Court said: "The primary jurisdiction as to fixing rates under the Interstate Commerce Act is with the Commission and the power of the court is confined to a review of questions of constitutional power exercised by the Commission." [4]

The attitude of the Supreme Court was excellently summarized in Interstate Commerce Commission *v.* Union Pacific Railroad Company, decided in January, 1912.[5] In this decision, sometimes referred to as the Pacific Coast lumber opinion, the Court said: "In cases thus far decided, it has been settled that the orders of the

[1] Interstate Commerce Commission *v.* Illinois Central Railroad Co., 215 U. S. 452–478.
[2] 215 U. S. 452, 470.
[3] 215 U. S. 481–500.
[4] 218 U. S. 89.
[5] 222 U. S. 541–555.

Commission are final unless (1) beyond the power which it could constitutionally exercise; or (2) beyond its statutory power; or (3) based upon a mistake of law. But questions of fact may be involved in the determination of questions of law, so that an order, regular on its face, may be set aside if it appears that (4) the rate is so low as to be confiscatory and in violation of the constitutional prohibition against taking property without due process of law; or (5) if the Commission acted so arbitrarily and unjustly as to fix rates contrary to evidence, or without evidence to support it; or (6) if the authority therein involved has been exercised in such an unreasonable manner as to cause it to be within the elementary rule that the substance, and not the shadow, determines the validity of the exercise of the power. . . .

"In determining these mixed questions of law and fact, the court confines itself to the ultimate question as to whether the Commission acted within its power. It will not consider the expediency or wisdom of the order, or whether, on like testimony, it would have made a similar ruling." [1]

From these quotations it is clear that the highest court of the land fully recognized "the supremacy of the Commission as the deliberately selected instrument of federal railway regulation," and was not disposed to interfere with its orders on economic grounds or on grounds of public policy, so long as the orders were within the powers enjoyed by the Commission. The conditions were ripe, therefore, for the effective exercise of administrative power over the nation's railways.

REFERENCES

Annual Report of the Interstate Commerce Commission, 1903, pp. 7–13.

Dixon, F. H.: "The Interstate Commerce Act as Amended," *Quarterly Journal of Economics*, vol. 21, pp. 22–51 (November, 1906).

Ripley, W. Z.: *Railroads: Rates and Regulation*, chs. 15–16 (1912).

Sharfman, I. L.: *Railway Regulation*, pp. 201–215 (1915).

Smalley, H. S.: "Rate Control under the Amended Interstate Commerce Act," *Annals of the American Academy of Political and Social Science*, vol. 29, pp. 48–65 (March, 1907).

[1] 222 U. S. 547.

CHAPTER XIII

THE MANN-ELKINS ACT OF 1910

Important as the Hepburn Act was in extending the control of the federal government over railroads, it stopped far short of giving to the Interstate Commerce Commission the fullness of authority that it was subsequently to enjoy. The Commission still had no power to suspend proposed increases in rates; to fix minimum rates; to control the classification of freight; to make a physical valuation of the railroads' property; or to regulate their issues of securities. It exercised only a limited jurisdiction over physical operation and over water routes. Despite the emasculation of the long and short clause by the Alabama Midland decision in 1897, no change was made in this clause in 1906. If the experiment of railway regulation was to be given a fair test it was necessary that these defects of the law be repaired; and accordingly Congress, in the years that followed, enacted further legislation dealing with these and other matters. The first measure of importance was the Mann-Elkins Act, passed on June 18, 1910.[1]

Extension of the Commission's Jurisdiction

The Mann-Elkins Act extended the jurisdiction of the Interstate Commerce Commission by placing under its authority telegraph, telephone, and cable companies, whether wire or wireless, which were engaged in sending messages in interstate or international commerce. The subjecting of these public utilities to the provisions of the interstate commerce acts made the Interstate Commerce Commission a full-fledged public utility commission, whereas prior to the passage of the Hepburn Act (in 1906) it had been almost entirely a *railroad* commission.

Suspension of Proposed Changes in Rates

Perhaps the most important provision of the Mann-Elkins Act was that conferring on the Interstate Commerce Commission power to suspend proposed changes in railroad rates. Under the

[1] 36 Statutes at Large, part I, pp. 539–557.

Hepburn Act the Commission had power to prescribe the maximum rates to apply in the future, but it could act only after hearing on a complaint; and no complaint could be considered by the Commission until the rate had gone into effect. Once the rate had become effective the shipper could complain to the Commission that the new rate was unreasonable, but even if the Commission found the complaint to be justified its order reducing the rate could be suspended by the courts pending a determination of the legality of the order. Meanwhile the unreasonable rate would remain in force. The shipper might sue for damages, to be sure, but, for reasons already stated, he seldom did. The outcome of such a suit was somewhat uncertain; and in any event the burden of the excessive rate was usually shifted for the most part to the ultimate consumer, who naturally could not sue the railroad because he had not paid the excessive freight rate to the railroad. The weakness of the Hepburn law in failing to provide for the suspension by the Interstate Commerce Commission of proposed changes in rates became quite apparent during the early months of 1910. Rates had been considerably advanced here and there in the years preceding 1910, but in that year the railroads almost simultaneously filed advanced rates applying to a large section of the country; and it was stated that similar advances would be made in the remaining sections. These increases in rates aroused the hostility of the shippers; and the Department of Justice adopted energetic measures to prevent them from going into effect. It claimed that the advances had been made as the result of an agreement among the railroads in violation of the Sherman Anti-trust Act of 1890; and it succeeded in securing from the courts a temporary order enjoining the western railroads from putting the new rates into effect. It was understood that similar proceedings would be begun against the eastern railroads. While it is not certain that the temporary injunction of the court would have been made permanent, the railroads did not deem it advisable to force the issue to a conclusion. They offered, if the administration would consent to a withdrawal of the proceeding against them, to suspend the proposed increases in rates, and to give Congress time to complete the legislation dealing with this matter which was then being debated in its halls.

The Mann-Elkins Act contained the necessary legislation. It provided that whenever there should be filed with the Inter-

state Commerce Commission any new rate, fare, or classification, the Commission should have authority, either upon complaint or upon its own initiative without complaint, to enter upon a hearing concerning the propriety of such rate, fare, or classification; and pending the hearing and a decision thereon to suspend the operation of the rate and classification for 120 days beyond the time when they would have gone into effect. The Commission was to decide these cases as speedily as possible, but if it found itself unable to conclude the hearing within 120 days, it might extend the period of suspension an additional six months. A hearing having been held, the Commission might make such order as would have been proper in a proceeding initiated after the rate or classification had become effective. In a hearing involving a rate *increased* after January 1, 1910, the burden of proof to show that the increased rate was just and reasonable was upon the carrier. It was not sufficient under this provision for the carrier to justify the *increase* in the rate; it must justify *the rate as increased.*

The objection was made to this legislation that it was revolutionary and not fair to the railroads. Yet it should be borne in mind that it merely gave to the shippers and the consumers the same protection against changes in rates as had long been enjoyed by the railroads. Rates already in force could not be reduced by the Commission without a hearing; and its order might be suspended by the courts, the old rates meanwhile remaining in effect. If, then, the railroads proposed to change rates that had long been in effect, and that were therefore presumably adequate, might not the shippers and the public also enjoy the protection of a hearing by the governmental tribunal that was established to safeguard the public welfare. It was proposed, indeed, to forbid the railroads to make any changes in their rates without securing the approval of the Commission, but in the law as passed the proposed changes became effective unless suspended by the Commission, and unless found, after hearing, to be unreasonable. The proviso that the burden of proof to justify the increased rate was upon the carrier was adopted in the belief that any party proposing a change which would modify prevailing adjustments might fairly be expected to establish to the satisfaction of the Commission the necessity of a change. This proviso greatly increased the difficulty of the carriers' position, particularly in view of the steady

advances in prices and costs that took place during the next decade, and it perforce markedly affected the decisions of the Commission in the numerous applications made to it by the carriers for permission to increase their rates and fares.

A few words may be said as to these decisions before passing on to the other provisions of the act. The first two decisions dealt with the advances in rates filed by the eastern and western railroads prior to the passage of the Mann-Elkins Act, but suspended by them in consideration of the withdrawal of the government injunction. The decisions of the Interstate Commerce Commission in these two cases were rendered on February 22, 1911.[1] In both cases the Commission denied the request for higher rates. The railroads contended that they needed more money to offset the increase of the operating expenses at a greater rate than the operating revenues. They declared that wages had risen without a corresponding increase in efficiency; that the prices of materials and supplies had advanced; and that the costs of operation were growing on account of higher taxes and the demand of the public for the elimination of grade crossings, the adoption of safety devices, and the construction of expensive stations and improved terminal facilities. They urged, moreover, that rates be made high enough to enable the railroads to attract the requisite capital for the necessary additions and improvements. The decision of the Commission was against the railroads on every point. The Commission called attention to the fact that the net earnings of the railroads of the country were larger in 1910 than in any previous year, no matter on what basis calculation was made. Never before had the gross amount paid in dividends been so large, or the average dividend rate been so high. Wages had risen, to be sure, yet not so rapidly as revenues, and accordingly the railroad profits were greater. The prices of some supplies had advanced, notably fuel and lumber, but it was shown that the prices of most of the articles purchased by the railroads were lower in 1910 than they had been on the average during 1901 to 1910. The demands of the public had multiplied, but not at the expense of adequate net revenues. In view of such a condition how could it be claimed that rates should be increased to improve railroad credit? If railroad credit was poor, said the Commission, it was because the railroad officials had proclaimed the fact so

[1] 20 I. C. C. Reports 243–306 (eastern case), and 307–399 (western case).

vociferously, and because there had been no adequate governmental supervision of the issuance of railway securities, and not because the revenues had been inadequate.

The next big case was the so-called Five Per Cent case, decided on July 29, 1914.[1] In this case the Commission found the net operating income of the railroads in Official Classification territory to be smaller than was demanded in the public interest, but it gave comparatively little immediate relief. It approved, with certain exceptions, an increase of 5 per cent—the per cent asked by the railroads—on intraterritorial class and commodity rates in that part of Official Classification territory known as Central Freight Association territory.[2] It refused permission, however, to apply the advance to the other two subdivisions of Official Classification territory ("eastern trunk line territory" and New England), and permission to apply it to traffic moving between these subdivisions and Central Freight Association territory. This refusal was not because the revenues of the railroads serving these territories were adequate, but because, in the opinion of the Commission, they ought not to be increased in the manner proposed by the railroads. The Commission therefore suggested to the railroads numerous ways in which they might secure the additional revenue they needed without advancing the general level of freight charges. Among these suggestions, which were offered tentatively, were: increases in passenger fares; increases in the freight rates on particular commodities not bearing their fair share of the burden; higher charges for special railroad services, such as the expedited movement of freight; the restriction of free passes, even when passes were allowed by statute; the sale of property not used for transportation purposes; the revision of contracts with sleeping-car companies; and greater efficiency and economy in operation.

This decision had hardly been rendered when the war broke out in Europe. Though the war soon led to an unusually heavy demand for American products, its first effect was seriously to disturb American commerce, and consequently to reduce the volume of railroad traffic. The railroads therefore asked the Commission for a rehearing of the Five Per Cent case, and their request was granted. The decision of the Commission in the case

[1] 31 I. C. C. Reports 351–454.
[2] Cf. p. 148.

as reheard was rendered on December 16, 1914.[1] The Commission declared that in view of the unprecedented calamity confronting the world it was essential that the means of transportation be kept fully abreast of the public requirements. Yet because of the war railroad revenues had declined at the very time when it was peculiarly important that they be adequate. Moreover, the suggestions made in its decision of July 29 could not be adopted immediately, and therefore the railroads could not depend on their adoption for the relief to which they were then entitled. Accordingly the Commission reconsidered its first order, and approved, with certain exceptions, the 5 per cent advance that the railroads had requested.

An important decision was made on July 30, 1915,[2] and again on June 27, 1917,[3] shortly after the United States entered the war. The first case involved advances in rates in Western Classification territory; and the second involved advances in all of the territories of the country. In both cases the Commission allowed some increases in rates, yet in the main the requests of the railroads were denied.

It is evident that the cases decided by the Commission under its new powers were decided for the most part adversely to the railroads. Such an outcome the railroads were wont to attribute to the fact that the burden of proof was upon them, and to the fact that even though an increase was warranted, the justification therefor might be hard to establish. Men of prophetic vision might actually foresee the need of increased rates to meet future emergencies, yet the Commission could not sanction an increase until the need therefor had been proved. The attitude of the Commission was perforce passive, and to this circumstance the railroads attributed many of their troubles. If we bear this situation in mind, we shall be in a better position to appreciate the real significance of the principle embodied in the Esch-Cummins Act (1920), directing the Commission to establish not only reasonable rates, but also *adequate* rates. This later amendment of the law would appear to transfer the responsibility for adequate rates to the Commission.

[1] 32 I. C. C. Reports 325–354.
[2] 35 I. C. C. Reports 497–681.
[3] 45 I. C. C. Reports 303–355.

Long and Short Haul Clause

Another important provision in the Mann-Elkins Act was that amending the long and short haul clause. Despite the fact that the decision of the Supreme Court in the Alabama Midland case (1897) rendered this clause practically inoperative, the Hepburn Act of 1906 made no change in this regard. The failure to revise this section was partly due to the opposition of the railroads, which wished to be free to meet the competition of the water lines without reducing the intermediate rates to the level of the water-compelled rates. It was also due to the opposition of eastern manufacturers and jobbers, who desired low through rates in order to get into western and southern markets. By 1910, however, it was evident that relief would have to be provided for the South and particularly for the long-suffering towns in western intermountain territory. On this point the western representatives in Congress were insistent.

The amended long and short haul clause contained three major changes. (1) The words "under substantially similar circumstances and conditions" were eliminated, thereby making it illegal for common carriers to charge more for the short haul than for the longer, unless they were authorized to do so by the Interstate Commerce Commission. Prior to the elimination of these words a greater charge for the short haul had been forbidden only when the conditions at the nearer and more distant point were substantially similar, but this prohibition amounted to little, because the Supreme Court had held that even the competition of one railroad with another created a dissimilarity of conditions which relieved the carrier from the operation of the clause. Hereafter, the long and short haul clause was to mean something, since departures therefrom could not be made without the consent of the Commission. In order not to upset the existing rate structures all at once, a proviso was attached to the effect that no rates lawfully existing at the time of the passage of the Mann-Elkins Act should be required to be changed on account of the provisions of this section until six months after the passage of the act, and, further, that in any case where application was made to the Commission for permission to depart from the prohibitions of the clause no rates should be required to be changed until such application had been acted upon by the Commission. (2) It was made un-

lawful for any common carrier to charge any greater compensation for a through route than the sum of the local rates over the same route, subject, the Commission maintained, to the proviso that exceptions might be authorized by it. (3) It was provided that whenever a railroad reduced its freight rates in competition with a water route, it might not increase these rates unless the Commission found that the proposed increase rested upon changed conditions other than the elimination of water competition. The purpose of this provision is obvious.

The Interstate Commerce Commission, discussing the meaning of the amended long and short haul clause, expressed the conviction that "the intendment of the law is to make its prohibition of the higher rate for the shorter haul a rule of *well-nigh universal application* from which this Commission may deviate only in special cases and then to meet transportation circumstances which are beyond the carrier's control."[1] In view of this interpretation the effects of the clause were well-nigh certain to be far-reaching. The Commission was given authority to readjust the rate structures of the country in those sections where the long and short haul principle was not observed, notably in the West and South; and, as we have explained earlier, this authority was exercised in such manner as to bring about in these sections a much greater observance of the distance principle and a decided reduction in the amount of local discrimination.[2]

Procedure of Enforcement (Commerce Court)

The third leading feature of the act was the creation of a specialized transportation court, called the Commerce Court. In view of the fact that this court was abolished three years later, our description of the provisions of the law defining its powers and duties will be comparatively brief.

The creation of the Commerce Court was largely due to the insistence of President Taft, who had formerly been a circuit court judge, and who was therefore particularly interested in the procedure of enforcement. The principal arguments advanced on behalf of the court were: (1) it would expedite the adjudication of cases arising under the interstate commerce acts; (2) it would secure a greater degree of uniformity of decision in such

[1] 21 I. C. C. Reports 341. Italics supplied by the author.
[2] Cf. ch. 9.

cases than was possible when they were handled by numerous courts scattered all over the country; and (3) it would decide these cases more wisely because it would be a specialized court, and would therefore acquire that expert knowledge necessary for an intelligent review of the orders of the Commission, itself a specialized body. The President's suggestion seemed to be a good one, and accordingly it was accepted by Congress, though, it must be said, without particular enthusiasm.

The Commerce Court as created by the Mann-Elkins Act consisted of five judges, assigned to the court by the Chief Justice of the Supreme Court from among the circuit judges of the United States. The term of office was five years. The first appointments, however, were made by the President, who was directed to appoint five additional circuit judges to be assigned to the Commerce Court; but upon their death, resignation, or the termination of their assignment the Chief Justice was to fill the vacancy. It was further provided that after 1914 no circuit judge should be redesignated to serve in the Commerce Court until one year after the expiration of his term of service. In view of the professed purpose of securing a specialized court, this was indeed a peculiar provision; for a judge, having once become proficient through five years' service, was debarred from further service on the court until the passage of a year's time.

To the Commerce Court was transferred the jurisdiction then possessed by the circuit courts over four important classes of cases, and the jurisdiction of the Commerce Court over these cases was made exclusive. From the decisions of the Commerce Court appeals could be made to the Supreme Court, as hitherto, and the latter was to give to these cases priority over all others except criminal cases. However, an appeal to the Supreme Court was not to operate to stay the decree of the Commerce Court, unless the Supreme Court so directed.

An important paragraph was the provision that nothing contained in the act should be construed as enlarging the jurisdiction formerly possessed by the circuit courts, and by this act transferred to the Commerce Court. In January, 1910, it will be recalled, the Supreme Court in the Illinois Central case had fully upheld the authority of the Commission by denying to the courts the right to review the orders of the Commission upon their merits. As the Supreme Court had said, "power to make the order and not

the mere expediency or wisdom of having made it, is the question." A limited review of the findings of the Interstate Commerce Commission being apparently assured by this pronouncement of the Supreme Court, Congress proposed to take no chances that the creation of a new court would be construed as enlarging the jurisdiction of the courts. Hence the paragraph referred to above.

The Commerce Court proved short-lived; it was abolished on December 31, 1913, just three and one-half years after its creation. There were two principal reasons for its abolition. First, the court, instead of occupying the place in the administrative machinery for the regulation of railroads that Congress and the decisions of the Supreme Court had indicated, presumed to interfere unduly with the orders of the Interstate Commerce Commission. For many years the Commission had been seriously hampered by judicial interference with its authority, but finally in 1906 Congress had provided that the orders of the Commission, if "regularly made and duly served," should be enforced by the courts. The meaning of this provision had been passed upon by the Supreme Court several months prior to the creation of the Commerce Court. In the Illinois Central case, decided in January, 1910, the Supreme Court had made it clear that the orders of the Commission, so long as they were within its constitutional and lawful powers, might not be judicially reviewed on their merits. This finding, together with the provision of the Mann-Elkins Act that nothing therein should be construed as enlarging the jurisdiction of the courts, should have served as sufficient notice to the Commerce Court that its power to review the orders of the Commission was limited. Nevertheless the Commerce Court presumed to inquire into the Commission's findings of fact; to review cases on their merits; and in one instance actually to begin the case anew in its own court. The Supreme Court reversed the decisions of the Commerce Court time after time, and eventually perhaps the lower court would have become sufficiently chastened; but Congress did not propose patiently to await this outcome, and accordingly it abolished the offending court at an early date. Indeed it would have been abolished a year and one-half earlier had it not been for the vetoes of the President, who disliked to see his pet project go by the board.

The second reason for the abolition of the Commerce Court was that one of its members was found to be corrupt. Early in 1912 complaints were made with regard to the official conduct of Judge

Robert W. Archbald. It was charged that Judge Archbald while a United States district judge had accepted money from persons interested in litigation before his court, and that while a member of the Commerce Court had corruptly used his influence to induce corporations involved in litigation before the court to enter into contracts with him from which he would profit. On May 4, 1912, the House of Representatives provided for an investigation of these charges, and on July 11, 1912, it decided upon impeachment. The vote was 223–1, the lone dissenting vote being cast by the representative from Judge Archbald's congressional district. The Senate tried the case against Judge Archbald, and on January 13, 1913, found him guilty. Without a dissenting vote the Senate passed a resolution removing Judge Archbald from office; and by a vote of 39–35 it imposed the extreme penalty permitted by the Constitution, disqualifying him forever to hold any office of honor, trust, or profit under the United States.[1] The impeachment of Judge Archbald was the third case in the history of the country in which a judge was removed from office by the Senate, and the second case in which the extreme penalty of disqualification was imposed.[2] Naturally public sentiment reacted strongly and unfavorably against the court of which the Judge was a member, particularly in view of the general impression that the court was hostile to the Commission and the whole scheme of governmental regulation.

The abolition of the Commerce Court was effected by the Urgent Deficiency Act, passed on October 22, 1913,[3] but to become effective, so far as the Commerce Court was concerned, on the last day of the year. The jurisdiction vested in the Commerce Court by the Act of 1910 was transferred to the district courts of the United States; and all parts of the act in so far as they related to the Commerce Court were repealed. The tenure of the members of the court was continued, but upon their death, resignation, or removal no successors to them were to be appointed.

[1] *Congressional Record*, January 13, 1913, p. 1447.
[2] Brown, W., *Harvard Law Review*, 26, pp. 699–705.
[3] 38 Statutes at Large, part I, pp. 219–221.

Miscellaneous Provisions

The remaining provisions of the Mann-Elkins Act may be described briefly.[1]

(1) The Commission was authorized to fix maximum rates, not only upon complaint, as hitherto, but after a hearing begun upon its own motion. It is possible that the Commission had this power under the Hepburn Act, but its authority was uncertain; and the act of 1910 placed its authority in this respect beyond dispute.

(2) The Commission was given control over the classification of freight. Prior to the passage of the Mann-Elkins Act the Commission had exercised authority over classification, as a part of its rate making power, but the authority to do so had not been expressly conferred. The Mann-Elkins Act remedied this defect. In addition, as noted earlier, it gave the Commission power to suspend proposed changes in classifications pending an examination into their reasonableness.

(3) Shippers were given the right to designate by which of two or more through routes their freight was to be carried to destination, subject to such reasonable exceptions and regulations as the Commission should prescribe.

(4) Common carriers and their agents were forbidden to disclose any information concerning either the route, destination, or consignee of any shipment, when such information might be used to the detriment of the shipper. The soliciting of such information was also made illegal. This provision was intended to protect shippers, especially the smaller ones, against espionage on their business by competitors, usually the larger and more powerful ones.

(5) The President was authorized to appoint a commission to investigate questions pertaining to the issuance of stocks and bonds, and the power of Congress to regulate. The President had recommended that the Interstate Commerce Commission be given authority to regulate the issues of railroad securities, but such authority was not given to it until a later date. As chairman of the Railroad Securities Commission the President appointed President A. T. Hadley, of Yale University, who was a recognized

[1]It is perhaps unnecessary to state that only the more important provisions of the act are described.

authority on railroad problems, being the author of the classic work "Railroad Transportation." [1]

From the foregoing account it is clear that the Mann-Elkins Act considerably increased the power of the Interstate Commerce Commission, and that it represented a further step in the direction of complete regulation of railways by the federal government. Yet this regulation was still far from complete. The Commission had no power to establish minimum rates; to make a physical valuation of the railroads' property; or to regulate the issuance of securities. It had not sufficient authority to regulate intrastate rates when they caused a discrimination against interstate commerce, and it had only a limited authority over service and over water routes. In a number of other respects its powers fell short of those that should be enjoyed by a governmental tribunal charged with the responsibility of regulating the nation's railways. It was clear, therefore, that despite the progress made in 1910, the end of regulation was not yet.

REFERENCES

Bryan, J. W.: "The Railroad Bill and the Court of Commerce," *The American Political Science Review*, vol. 4, pp. 537–554 (November, 1910).

Dixon, F. H.: "The Mann-Elkins Act, amending the Act to Regulate Commerce," *Quarterly Journal of Economics*, vol. 24, pp. 593–633 (August, 1910).

——: *Railroads and Government*, chs. 2–4 (1922).

Dunn, S. O.: "The Commerce Court Question," *American Economic Review*, vol. 3, pp. 20–42 (March, 1913).

Haines, H. S.: *Problems in Railway Regulation*, ch. 6 (1911).

Hammond, M. B.: "Recent Efforts to Advance Freight Rates," *American Economic Review*, vol. 1, pp. 766–789 (December, 1911).

Ripley, W. Z.: *Railroads: Rates and Regulation*, chs. 17–19 (1912).

[1] The Commission made its report on November 1, 1911. See House Document no. 256, 62nd Cong., 2nd Sess.

CHAPTER XIV

MISCELLANEOUS LEGISLATION TO APRIL, 1917

In this chapter we shall describe briefly three laws passed after the Mann-Elkins Act and prior to the entrance of the United States into the World War. These laws include the Panama Canal Act (1912); the Valuation Act (1913); and the Clayton Act (1914).[1] These acts dealt with miscellaneous matters, but their net effect was considerably to increase the power of the Interstate Commerce Commission. Some of them dealt with other than railroad matters, but we shall describe merely those provisions that bear on the subject of this book.

The Panama Canal Act

The Panama Canal Act, passed on August 24, 1912, made provision for the government of the Canal Zone and for the opening, maintenance, and operation of the Panama Canal.[2] The significance of this act, so far as the railroads are concerned, lies in the fact that it gave the Interstate Commerce Commission general authority over the relations between rail and water carriers. The act of 1887, it will be recalled, had given the Commission jurisdiction over common carriers engaged in transportation partly by railroad and partly by water, when both were used under a common control or arrangement for a continuous shipment. The Commission interpreted this to mean that water carriers were subject to its jurisdiction only as to such of their traffic as was transported under a common control or arrangement with a rail carrier, and that as to their other traffic they were exempt from the provisions of the interstate commerce acts.[3] Whether the failure of Congress to regulate water carriers in the same manner that it regulated rail carriers was to be deplored or not, depended

[1] A number of other acts dealing with railroads were passed during the period covered in this chapter, but our discussion will be confined to these three. The Adamson Act (1916) is discussed in ch. 20.

[2] 37 Statutes at Large, part I, pp. 560–569. See especially pp. 566–568.

[3] 15 I. C. C. Reports 211 (1909).

in large measure on whether competition was effective among water carriers. The general belief was that competition was active in water transportation, and that regulation was therefore unnecessary. Unfortunately, however, this general belief was not in accord with the facts; there were numerous agreements between, and consolidations of, water carriers. Moreover, many railroads controlled water lines and water facilities; and there was reason to fear lest the railroads would acquire control of the lines using the Panama Canal (upon its completion), and thus prevent the people from securing the full benefit of this new and promising competition. It was because of the widespread restraint of competition by water that the failure of the Hepburn and Mann-Elkins acts to provide for the effective regulation of water carriers might fairly be regarded as an unfortunate omission. This weakness of the law was remedied in part by the Panama Canal Act of 1912, and in larger measure by the Shipping Act of 1916. This latter measure created the United States Shipping Board, on which was conferred authority to regulate water carriers. A description of this second measure, however, lies outside the scope of this book.

The Panama Canal Act made it unlawful, after July 1, 1914, for any railroad (or other common carrier) to own, lease, operate, control, or have any interest whatsoever, by stock ownership or otherwise, in (1) any common carrier by water operated through the Panama Canal or elsewhere with which the railroad did or might compete; or (2) any vessel carrying freight or passengers upon said water route with which the railroad did or might compete. Jurisdiction was conferred upon the Interstate Commerce Commission to determine questions of fact as to the existence of competition or the possibility of competition, and its decision in such cases was to be final. As to services by water other than through the Panama Canal, the Commission was authorized to permit these services to be continued beyond July 1, 1914, if it was of the opinion that they were being operated in the interest of the public, and that the extension of time would not prevent or reduce competition on the water route under consideration. But in every case of such extension the rates, schedules, and practices of the water carrier were to be filed with the Commission, and to be subject to the interstate commerce acts to the same extent as were those of the controlling railroad. These provisions gave

the Commission a large measure of authority over those water carriers that were controlled by railroads, but none at all over independent water carriers that did not unite with railroads to form arrangements for the continuous carriage of freight or passengers.

In still further respects the authority of the Commission over rail and water carriers was increased. It was provided that when property was transported from one point in the United States to another by rail and water, and not entirely within the limits of a single state, the Commission should have authority (1) to establish physical connection between the line of the rail carrier and the dock of the water carrier, when such connection was reasonably practical, and to determine the conditions under which the connecting track should be operated; (2) to establish through routes and maximum joint rates over such rail and water lines; and (3) to require rail carriers that had entered into arrangements with a water carrier for the handling of through business between interior points in the United States and a foreign country to enter into similar arrangements with other steamship lines operating from that port to the same foreign country. The purpose of these provisions was to prevent through business by rail and water from being restrained by dock monopolies and by exclusive traffic agreements between railroads and certain water lines, perhaps those under the control of the railroads; and thus to encourage and promote transportation by water, which had been brought in considerable measure under the control of the railroads.

The Valuation Act

The Valuation Act, directing the Interstate Commerce Commission to ascertain the value of all the property owned or used by common carriers, was passed on March 1, 1913. The main purpose of this act was to furnish the Commission with some standard by which to test the reasonableness of railway rates and the reasonableness of proposed changes in rates. The interstate commerce acts declared that rates should be just and reasonable; and authorized the Commission to substitute a reasonable maximum rate for a rate found to be unreasonable. The act of 1910, moreover, authorized the Commission to suspend proposed changes in rates, and if it found them to be unreasonable to prevent them from going into effect. Yet how was the Commission to determine

whether the rates in effect or proposed were reasonable or not? Clearly it would need a yardstick of some kind by means of which to measure the reasonableness of rates. Such a yardstick in general language had been supplied for it in the famous case of Smyth *v.* Ames, decided by the Supreme Court in 1898.[1] In this case the Court held that "the basis of all calculations as to the reasonableness of rates to be charged by a corporation maintaining a highway under legislative sanction must be the fair value of the property being used by it for the convenience of the public. . . . What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth." This decision established the rule that rates are reasonable when they give the carrier a fair return upon the value of its property employed for the public convenience. The task of regulation thus made necessary the determination of that value upon which the carriers were entitled to a fair return.

Notwithstanding the decision of the Supreme Court (in 1898) no provision was made by Congress for a valuation of the railroads' property until 1913. A number of states had begun or completed valuations of the railway property within their borders, but the repeated recommendations of the Interstate Commerce Commission that Congress make provision for a federal valuation had fallen upon deaf ears. An important explanation of Congressional inaction was the determined opposition of the carriers, the opposition of which was based on the enormous cost, and on the belief that rates should not depend on the value of the railroad property. The passage of the Mann-Elkins Act of 1910, however, made the enactment of some such legislation imperative. Before 1910 the principal task of the Commission, so far as rates were concerned, had been to inquire into the reasonableness of particular rates, but after 1910 it had the added duty of inquiring into the reasonableness of the general level of rates. To the satisfactory exercise of this later function a valuation was well-nigh indispensable. The lack of such a valuation greatly increased the difficulty of the Commission's task in making a just decision as to the reasonableness of proposed increases in rates.

[1] 169 U. S. 466–550.

This point was brought out in the rate increase cases of 1911. In both cases the Commission denied permission to the railroads to raise their rates. The Commission was compelled, of course, to decide the cases upon the evidence available, and there was no evidence showing the value of the railroads' property. The Commission declared in connection with these cases that a physical valuation would introduce into the calculation a new element which might lead to a different conclusion.[1] This finding obviously could not fail to exercise a decided influence upon those railroad officials who were opposed to a valuation. Moreover, it was hoped and believed that a valuation would set at rest the oft-repeated assertions that the railroads were grossly overcapitalized. As a result there was practically no opposition by railroad officials to the passage in 1913 of the Valuation Act.

In making provision for a federal valuation Congress was greatly hampered by the fact that there had been as yet no judicial determination of the exact manner in which the fair value of the railroad property was to be ascertained. The point may be made clear by another quotation from Smyth *v.* Ames. "The basis of all calculations as to the reasonableness of rates to be charged by a corporation maintaining a highway under legislative sanction must be the fair value of the property being used by it for the convenience of the public. And in order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, *are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property.*" [2] Though the subject of valuation was discussed in later decisions of the Supreme Court, it was nevertheless true in 1913 that in determining the value of railroad property consideration had to be given to numerous factors, the relative importance of which was still largely unsettled. Accordingly Congress directed the Interstate Commerce Commission to ascertain the value of railroad property by a number of methods,

[1] 20 I. C. C. Reports 305.
[2] Italics supplied by the author.

and left to the future the determination of the relative weight to be attached to each.

By the Valuation Act the Commission was directed to ascertain the value of all the property owned or used by every common carrier subject to the provisions of the act.[1] More specifically, it was directed to ascertain and report in detail as to each piece of property used for common carrier purposes, the original cost to date, the cost of reproduction new, the cost of reproduction less depreciation; and to indicate the methods by which these costs were obtained. In like manner the Commission was directed to report separately all other values and elements of value, if any, and the methods of valuation employed. In ascertaining the original cost the Commission was to investigate the history and organization of the corporation operating the property, its earnings and expenditures, and its issues of securities. The report of the Commission was to state in detail and separately from improvements the original cost of all lands, rights of way, and terminals used for common carrier purposes, and their present value. It was to show also the amount and value of any aid, gift, or grant of right of way by governments, associations, corporations, or individuals; and the value of grants of land by governments, federal or other. It was to show also the property held for purposes other than those of a common carrier, and their original cost and present value. The Commission was empowered to prescribe the method of procedure to be followed in carrying on its investigations, and the form in which the results were to be submitted; but it must show the value of the property of every carrier as a whole, and separately the value of its property in every state and territory.

The Commission was required to begin the work of valuation within sixty days, to prosecute it diligently, and to report its results to Congress regularly until the completion of the task. The railroads were required to coöperate with the Commission in the valuation to such extent as the Commission might direct; and all regulations made by it in administering the act were to have the full force of law. Upon the completion of the valuation the Commission was to keep itself informed of all extensions and improvements and other changes in the value of the property of carriers, and from time to time to revise its valuations. These valuations were to be regarded as tentative, and were to be regu-

[1] 37 Statutes at Large, part I, pp. 701–703.

larly reported to Congress. As soon as the Commission had completed a tentative valuation of the property of any carrier, it was to give notice thereof to the carrier, to the Attorney General of the United States, and to the Governor of every state in which the property was located. If no protest was filed within thirty days the valuation was to become final. If protest was filed within the allotted period, the Commission was to consider it; and it was then to issue an order establishing a final valuation. These final valuations were to be published, and were to be *prima facie* evidence of the value of the property in all proceedings under the Act to Regulate Commerce and in all judicial proceedings brought to enjoin or set aside an order of the Commission. From the valuations established by the Commission the railroads might appeal to the courts, yet it was anticipated that the courts would hesitate to substitute their judgment for that of the expert governmental tribunal whose decisions as to matters within its purview have increasingly been treated as final.

The task imposed on the Commission by the Valuation Act was a colossal one. That it represented the most far-reaching appraisal of railway property ever undertaken is clearly evident from the fact that the mileage of the railroads of this country was more than one-third of that of the world; and no other nation had a mileage even approximating our own. Even as late as 1923 the valuation, though begun in 1913, had not been completed; indeed, to the middle of 1923 only two final valuations had been reported. The final value of the San Pedro, Los Angeles and Salt Lake was announced on June 7, 1923;[1] and the final value of the Atlanta, Birmingham and Atlantic on July 20, 1923.[2] The combined mileage of these roads was less than one per cent of the total mileage. Meanwhile the cost of the valuation work to the government and the railways had amounted to approximately $100,000,000.

The Clayton Act

The Clayton Act, which became law on October 15, 1914, contained a number of provisions dealing with common carriers.[3]

[1] 75 I. C. C. Reports 463–644. The procedure followed by the Commission in evaluating railway property is explained in Texas Midland Railroad (Valuation Docket no. 2), decided July 31, 1918, 1 Valuation Reports, pp. 102–108.

[2] 75 I. C. C. Reports 645–743.

[3] 38 Statutes at Large, part I, pp. 730–740. See especially pp. 731–734.

These provisions did not really belong in the Clayton Act, which was essentially an anti-trust measure; [1] but they were incorporated in it because of the failure of Congress to pass a bill for the regulation of railway securities, in which bill the railroad provisions of the Clayton Act logically belonged. The Interstate Commerce Commission had advocated for some time that it be given authority to regulate the issues of railway securities, contending that without such power its regulation could not be effective; and the endeavor was made to incorporate in the Mann-Elkins Act a provision conferring this power on the Commission. Yet this proposal failed of enactment, as stated earlier. The opposition to it came from those who objected to any regulation of security issues; from those who believed in regulation, but in state regulation rather than federal; and from those who believed in federal regulation, but not in the particular plan proposed by the Administration. The logic of the situation of course demanded regulation, and regulation by the federal government; and the demand for such legislation was strengthened by a number of railroad scandals, such as the New Haven and Rock Island episodes,—scandals that were made possible because of the absence of adequate control over security issues. Accordingly, President Wilson in January, 1914, recommended to Congress that it pass a law conferring upon the Interstate Commerce Commission the power to superintend and regulate the financial operations by which the railroads were thenceforth to be supplied with the money needed for their development. Acting upon this recommendation the House of Representatives on June 5, by a vote of 325 to 12, passed a bill giving the Interstate Commerce Commission authority to regulate the issues of securities by common carriers and to deal with interlocking directorates among such carriers. This measure would undoubtedly have received the approval of the Senate, had it not been for the outbreak of the war in Europe a few weeks later. The war created a new situation; and raised the question whether it was desirable, in view of the unusual and disturbed financial conditions, to subject carriers to the delay that would be involved in securing action by the Commission upon their applications to issue securities. Accordingly a decision was made to postpone the measure. The principal provisions of the railroad bill being thus shelved,

[1] For a description of the Clayton Act, see the author's *The Trust Problem in the United States*, ch. 15.

those provisions which it seemed desirable to retain, notwithstanding the outbreak of the war, were embodied in the Clayton Act.

The Clayton Act contained three sections that deserve mention in this connection. Section seven, applying to common carriers but not solely to them, provided that no corporation engaged in commerce should acquire, directly or indirectly, any stock in another corporation also engaged in commerce, where the effect of such acquisition might be to lessen substantially competition between them, or restrain commerce in any section or community, or tend to create a monopoly of any line of commerce. A similar provision was made with regard to holding companies, not themselves engaged in commerce, but organized for the purpose of acquiring an interest in competing corporations that were engaged in commerce. These prohibitions, however, were not to be construed to prevent common carriers from constructing or acquiring branch railroads, or extending their lines through the acquisition of stock in other common carriers, when there was no substantial competition between the common carrier and the concern acquired by it. The prohibitions, moreover, were not to apply to holding companies organized in the past for the purpose of restraining competition; such holding companies were to retain the status at law which they had prior to the passage of the act.

Sections nine and ten of the Clayton Act dealt with misconduct on the part of common carriers. A number of investigations, for example, the investigation of the Pujo committee into the "money trust" and the investigation of the Interstate Commerce Commission into the New Haven Railroad, had shown that the officials and directors of numerous railroads had abused the trust placed in them by the stockholders, to the great detriment of the latter. It was established that the cost of construction, of operation, of securing capital funds, and of acquiring properties had been increased by virtue of the financial interest that the directors and officers of the railroads enjoyed in concerns with which they had business dealings. The Interstate Commerce Commission reported in July, 1914, that a considerable proportion of the officers and directors of railroad companies had an interest in outside concerns, including locomotive, car, steel, coal, oil, electric machinery, glass, cement, warehouse, railway appliance, railway publishing, and trust companies.[1]

[1] 31 I. C. C. Reports 414.

Section ten therefore provided that within two years after the approval of the act [1] no common carrier might have any dealings in securities or supplies, or make any contracts for construction or maintenance, to an amount exceeding $50,000 in any one year, with any concern, when a director, president, manager, purchasing or selling officer, or agent of the carrier was also a director, manager, purchasing or selling officer of, or had a financial interest in, the concern with which the dealings were had, unless the dealings were with the highest bidder in competitive bidding in accordance with regulations prescribed by the Interstate Commerce Commission. This section, therefore, did not forbid carriers to carry on business transactions with concerns in which the railroad officials were interested, but it did bring these relationships under control with the view to preventing the stockholders from being "milked" by the insiders. The penalty for a violation of this section was a fine of not to exceed $25,000 upon the railroad, and a fine (not to exceed $5,000) or a jail sentence (not to exceed one year), or both, upon the guilty railroad official.

Section nine dealt with embezzlement by railroad officials. It provided that every director or officer of a common carrier who embezzled, stole, willfully misapplied, or willfully permitted to be misapplied, any of its money, securities, or property, should be subject to imprisonment for one to ten years, or to a fine of not less than $500, or to both imprisonment and fine.

REFERENCE

Dixon, F. H.: *Railroads and Government*, ch. 6 (1922).

[1] This section was to become effective on October 15, 1916, but the date of going into effect was later extended to January 1, 1921.

PART IV

SOME RAILROAD PROBLEMS

CHAPTER XV

REASONABLE RATES: VALUATION AND THE FAIR RATE OF RETURN

In an earlier chapter [1] we traced the development of the doctrine of judicial review. We pointed out that the Supreme Court in the early cases that came before it, notably the Granger cases, declined to review the reasonableness of railway rates fixed by legislatures or commissions, on the ground that the reasonableness of such rates was entirely a legislative question. We pointed out also that the Supreme Court subsequently reversed itself on this issue, and asserted the right (which it now exercises) to review the reasonableness of railway rates, whether fixed by legislatures or commissions, and whether fixed by the federal government or the states. We did not, however, discuss the principles by which the reasonableness of rates was to be tested; this topic was reserved for the present chapter. In discussing this topic we shall deal with the general level of rates rather than with the rates on particular commodities. One reason for limiting the discussion in this way is that the principles upon which individual rates are made (and should be made) were explained at length in the chapters on Rates and Rate Making. A second reason is that the fairness and adequacy of the general level of rates have of late years occupied public attention to an increasing degree. Among the factors responsible for the increased public interest may be mentioned: the passage of the Mann-Elkins Act in 1910, giving the Interstate Commerce Commission power to suspend proposed changes in rates; the passage of the Esch-Cummins Act in 1920, directing the Commission to establish such a general level of rates as will enable the railroads to earn a fair return on the aggregate value of their property; and the outbreak of the World War, which led to marked fluctuations in prices and wages, and thus made necessary frequent changes in the general level of railway rates. A third, and final, reason for confining the discussion in the manner indicated is that the methods for determining the reasonableness of the general level

[1] Ch. 10.

of rates are quite different from those employed in the determination of the reasonableness of the rates on particular commodities. This point, if not already clear to the reader, will doubtless become so as the discussion proceeds.

The subject of reasonable rates may be introduced by a quotation from the decision of the Supreme Court in Smyth *v.* Ames—a decision that constitutes a landmark in the development of railway regulation. The first paragraph of this quotation asserts the right of the people to protection against unreasonable railway rates, and the right of the railways to protection against the practical confiscation of their property for the benefit of the public; and the second paragraph lays down the principles by which the reasonableness of rates is to be determined. The second paragraph furnishes the text for this chapter.

"A corporation maintaining a public highway, although it owns the property it employs for accomplishing public objects, must be held to have accepted its rights, privileges and franchises subject to the condition that the government creating it, or the government within whose limits it conducts its business, may by legislation protect the people against unreasonable charges for the services rendered by it. It cannot be assumed that any railroad corporation, accepting franchises, rights and privileges at the hands of the public, ever supposed that it acquired, or that it was intended to grant to it, the power to construct and maintain a public highway simply for its benefit, without regard to the rights of the public. But it is equally true that the corporation performing such public services and the people financially interested in its business and affairs have rights that may not be invaded by legislative enactment in disregard of the fundamental guarantees for the protection of property. The corporation may not be required to use its property for the benefit of the public without receiving just compensation for the services rendered by it. How such compensation may be ascertained, and what are the necessary elements in such an inquiry, will always be an embarrassing question. . . .

"We hold, however, that the basis of all calculations as to the reasonableness of rates to be charged by a corporation maintaining a highway under legislative sanction must be the fair value of the property being used by it for the convenience of the public. And in order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute,

and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth." [1]

The keynote of this decision (rendered in 1898) is that rates are reasonable when they give to the railway a *fair return* on the *fair value* of the property being used by it for the convenience of the public. The idea is that the fair value of the property of each railway should be ascertained; that the fair rate of return on the property should be determined; and that rates should be fixed at such a level as to yield the sum thus found to be reasonable. The determination of reasonable rates thus seems simple perhaps, yet upon closer examination it will become apparent that the problem is a very complicated one, and that an approximation to reasonable rates is all that can be expected. Let us consider first the more difficult problem—the ascertainment of the fair value of the property.

Fair Value of the Property

Though the Supreme Court established the principle in 1898 that a railway is entitled to a fair return upon the fair value of its property, it has at no time in the subsequent generation made a workable definition of the term "fair value." In Smyth *v.* Ames the Court enumerated a number of factors that were to be taken into consideration in estimating the value of a railroad's property, but it did not indicate how much weight was to be given to each of these factors, and it did not deny that there might be other factors worthy of consideration. Later decisions have thrown more light on the relative weight to be attached to the several factors, yet it still remains true that no certain guide has yet been provided. As the Court said in the Minnesota Rate Cases (1913), the ascertainment of the fair value of the property "is not a matter of formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts." [2] The

[1] 169 U. S. 545–547.
[2] 230 U. S. 434.

Court has expressed itself as opposed to the adoption of a formula for the ascertainment of the "fair value," yet it is highly important that certainty in this matter be substituted for uncertainty, and that a satisfactory basis of valuation be chosen. It will be worth while, therefore, to analyze the leading bases of valuation that have been suggested at one time or another, and to reach a conclusion, if possible, as to the most desirable basis. We have in mind, it should be noted, a valuation solely for rate making purposes. Valuations have been made, especially by the states, for a number of other reasons. They have been made to establish the taxable value of railroad property; to bring the volume of securities into harmony with the value of the property; and to ascertain the fair price to be paid by the government in the event of the purchase of the property. Opinions differ as to whether a valuation made for one purpose should be valid for all other purposes, yet we need not enter into this controversy.[1] We deal in this chapter solely with valuation as a phase of rate making. We make no pretence, of course, that we solve the problems of valuation—they are altogether too innumerable and complex to permit of ready solution—but we propose to direct attention to the nature of these problems and to the fundamental importance of a solution.

Many bases for the valuation of railroad property for rate purposes have been suggested, but we shall confine our discussion to three: first, market value; second, original cost of construction; third, cost of reproduction.

Market Value

The term market value (frequently called commercial value) is conceived of in two senses. It is sometimes used to denote the market value of a railroad's securities. The market value as thus conceived is ascertained by adding up the value of the company's stocks and bonds as registered on the stock and bond exchanges. The market value is also used to denote the capitalized value at the current rate of interest of the net earnings of the railroad. Thus, if the net earnings average $6,000,000, and the current rate of interest on enterprises of this character is 6 per cent, the market value will be $100,000,000. It is obvious that the market value, no matter in which of these two senses it be used, is a highly vary-

[1] On this topic, see Whitten, R. H., *Valuation* (1912), ch. 1.

ing quantity. Consider, for example, the market value as registered on the exchanges. What the securities of a railroad will sell for in the aggregate depends on numerous factors: for example, legislation; potential competition, whether of water ways, motor trucks, or other railways; the state of business, and therefore the volume of traffic; the temper of the speculative public; and the supply of funds seeking investment. Since these factors are significant in the main because of their effect on net earnings, it follows that the capitalization of the net earnings also gives a variable quantity.

The market value has been insistently urged as a basis of valuation, especially by those whose rates are being called into question. It has been claimed that the market value represents the crystallization of the best judgment of the market respecting the value of the property. So it does, if by value we mean exchange value. The value of a piece of property is measured by what it will sell for, what it will bring in the market. If railroads have to pay $50,000 for certain types of locomotives, that sum represents their value.[1] If one railroad acquires the property (or securities) of another, the price paid presumably represents the market value. Yet all this is beside the point. What we are seeking is not the exchange value, but the fair value for rate making purposes. We are not primarily interested in determining the price for which the railroad will sell in the market, but the amount upon which the railroad is entitled to earn a fair return. This amount in the language of the Supreme Court is denominated the "fair value," yet fundamentally what is desired is the sum (or figure) upon which a fair return is to be allowed. And a moment's reflection will show that the market value does not represent that sum. That it does not becomes clear if we consider how the market value is determined. The market value, in whichever sense we use the phrase, is determined primarily in the last analysis by the net earnings. Those who buy and sell a railroad's securities, and thus determine the market quotations, concern themselves with the political temper of the people, the potential competition of other means of transportation, the state of business, etc., yet they are concerned about these matters because of their effect upon net earnings. And upon what do net earnings depend? Obviously in large measure upon the *rates*. The argument thus reduces

[1] More accurately, in economic phraseology, their price.

itself to the proposition that the reasonableness of the rates should be determined by the use of a standard (market value), which is itself largely determined by the very rates into the reasonableness of which we are inquiring. Such an argument is in fact no argument at all, but merely a merry chase around a circle. Indeed, the use of market value as a basis of valuation would nullify all attempts at rate regulation by enabling the regulated concern to retain *monopoly* profits as well as legitimate profits. Regulation is undertaken because the rates are believed to be excessive. If the rates are excessive, net earnings are presumably excessive. If net earnings are excessive, the market value is presumably excessive. If, then, we allow rates that yield a fair return on an excessive valuation, we sanction excessive rates, which it is the very purpose of regulation to prevent. If regulation is to have this result, it might as well be abandoned.

Original Cost of Construction

The term original cost (often the expression actual cost is employed) is also conceived of in two senses. Sometimes it is used to represent the amount actually invested in the enterprise from the beginning. The major portion of the invested capital has usually come from those who bought the stock or bonds of the railroad, yet the proceeds of stock and bond sales seldom comprised the total investment. It has been the practice of American railroads to utilize a portion of the profits in the improvement and upbuilding of the property. The profits thus turned back into the business may have been surplus profits over and above reasonable dividends or they may have been sums that under less conservative financial practices would have been paid out to the stockholders, yet in either event they constitute a part—and no inconsiderable part—of the actual investment. It goes almost without saying that the term original cost includes only the expenditures that may properly be capitalized. Every railroad finds it necessary to make large outlays for repairs to existing property and for replacement of worn-out property, yet these outlays are properly charged to operating expenses, and must therefore be provided for out of current earnings. If it is not possible to maintain the property intact by means of repairs and current replacements—for certain items of property this is not possible—the railroad should make provision out of earnings for their complete replace-

ment when necessary. A public service corporation, like a railroad, not only has a right to make provision for depreciation, but it is its duty to the bondholders, the stockholders, and the public. Otherwise the investment in the property will be impaired. In addition to expenditures for repairs and replacements for the purpose of keeping the property intact, there are also expenditures for additions to and betterment of the property. It is this class of outlays that can appropriately be charged to capital, that is, met through the sale of new securities. In the past, as stated above, it has been customary for American railroads to finance many of their additions and betterments out of earnings. Yet whether the necessary funds have been obtained from the sale of new securities or from earnings, the outlays thus made represent an addition to the investment upon which a return should be allowed.

The term original cost is also used to represent the actual cost of the property now employed for the public convenience. The term as used in this sense differs from the term as used in the first sense in that it does not stand for the cost of the *original* property plus additions and betterments but for the cost of the *present* property. If portions of the plant have been abandoned from time to time the original cost of acquiring them would not be included, since they no longer constitute a part of the property then being used in the service of the public. Again, if adequate provision has not been made for the maintenance of the property in an undepreciated condition a deduction would have to be made for such depreciation; yet we assume (as before) that due provision has been made for maintaining the original investment intact, by the creation, whenever necessary, of the proper depreciation reserves.

Under correct accounting principles the cost of the original property (plus additions and betterments) and the original cost of the present property come to about the same figure. We may illustrate the point by the case of a locomotive. Assume the original cost of a locomotive purchased a number of years ago to be $30,000. In due course of time the locomotive is consigned to the scrap pile. A new locomotive is purchased, but since locomotives have meanwhile increased in size a new one costs $50,000. By the second method the original cost of the present locomotive is obviously $50,000. Yet this is also the original cost by the first method, which is defined as the cost of the original property plus additions and betterments. The cost of the

first locomotive was $30,000. It is not possible by means of repairs to keep locomotives from depreciating, yet under correct accounting principles provision is made out of earnings for their eventual replacement. When this locomotive was scrapped, then, there should have been available $30,000 for the purchase of a new one. The difference between this sum and the sum required to buy a new locomotive is $20,000. Under normal accounting procedure the difference would be charged to betterments, the funds for which can be obtained by the sale of new securities, or from surplus earnings (if available). The original cost by the first method would therefore be $50,000 also, this figure being arrived at by adding the cost of the original locomotive ($30,000) and the cost of the betterment ($20,000).

A difference between the two methods would appear in those cases in which an investment was made in property that was subsequently abandoned. Suppose a railroad constructed a branch line into a mining region at a cost of $1,000,000. This would represent, therefore, a part of the actual investment. Suppose, also, that the mines finally gave out, and that the branch line was abandoned. The cost of the branch line would not appear, therefore, in the cost of the *present* property. Yet if the railroad had kept its accounts in accordance with approved principles, it would have charged annually to operating expenses a sum sufficient to write off the cost of the branch line, and its investments would have been correspondingly reduced. We do not assert, of course, that this was always done by the railroads during the early days, when the manner in which their accounts were kept was not subject to the jurisdiction of the Interstate Commerce Commission, yet it is clear, it would appear, that there is no *striking* difference between the two senses in which the term original cost is used. We shall therefore employ the two expressions of the same idea interchangeably in the discussion that follows.

The original cost basis has much to commend it; in fact, in principle it is the soundest basis of valuation. The chief advantage of a valuation based on original cost is that it measures the sacrifice made by the investors. Such a valuation shows the cash or its equivalent contributed to the upbuilding of the property, whether the cash was derived through the sale of securities or through the reinvestment of earnings.

It is sometimes suggested that the sums representing the rein-

vestment of *surplus* earnings, that is, earnings over and above reasonable dividends, should not be included in the investment upon which a fair return is to be allowed. Yet these sums clearly represent a part of the investment, and for the public to appropriate them now would be to penalize the investors for having pursued in the past a policy of thrift and conservatism. In the days when there was no regulation or when regulation was ineffective many corporations made larger than normal profits. Some of these corporations distributed the profits to the owners, while others reinvested a large portion of them in the business. The surplus profits of the first set of corporations the people can not possibly recover at this late date; and the surplus profits of the second set they can not recover without discriminating against those persons who temporarily refrained from taking profits that were actually available for distribution. To put a portion of the profits back into the property was in accordance with sound business practice and the public welfare; and it would not be just at this late date to recover these profits merely because it is possible, in view of the fact that it is now impossible to recover the profits disbursed by the unthrifty corporations.

To repeat, the prime merit of the original cost basis is that it represents, as accurately as possible, the sacrifice of the investors. And what better basis than this can there be? Let the reader imagine that he has $1000 in cash, and let him imagine further that he will invest this sum in railway securities if he can obtain a satisfactory return. Suppose he buys a high grade railway bond, of a $1000 denomination, bearing 5 per cent interest. The purpose in buying this bond is presumably to insure a regular, annual income of $50. A purchaser of bonds has to take the risk (unfortunately) that the purchasing power of the $50 may go up or down, but he does not have to take the risk (fortunately) that the income (interest) will go up or down, assuming that he has made a good investment. An investor wants first of all a fair return on his investment, and not a fair return on some figure above or below his investment. If an investor were offered his choice between (1) 5 per cent on $1000 and (2) 5 per cent on $900 or $1100, a toss of the coin to determine whether it would be $900 or $1100, he would choose 5 per cent on the $1000; if he did not, he would not be an investor, but a speculator. Justice is done to the bondholder, then, when he is permitted to earn a fair return on his investment. Suppose,

however, the reader does not elect to buy a $1000 bond, but ten shares of stock, each having a par value of $100. The rate of return on the stock will have to be higher than on the bond, since stockholders assume greater risks than bondholders. Yet let us say that a rate of 6 per cent will suffice to induce the purchase of the stock. Under these circumstances the reader will consider himself justly treated if he regularly receives 6 per cent on his investment. Unlike the bondholder, who wants security first of all, the stockholder might be willing to let it be decided by a toss of the coin whether he received 6 per cent on $900 or 6 per cent on $1100; for a stockholder is more likely to be speculatively inclined. Yet whether or no he would be willing to take this additional and unnecessary risk, he certainly could not complain if he received regularly the 6 per cent which was sufficient to induce him to purchase the stock. Justice is thus done to the stockholder also when he is allowed to earn a fair return on his investment.

Though justice is done to the stockholders by allowing them a fair return on their investment, we must consider also the interest of the public. The stockholders might be willing, as we have seen, to take a chance on smaller profits in the hope of realizing larger ones. They might be willing to run the risk of receiving no dividends at all if they had an even chance of getting dividends of 12 per cent. That there are plenty of persons so constituted is established by the large subscriptions to highly speculative enterprises. Yet we are not dealing here with ordinary enterprises, but with those "affected with a public interest" and devoted to the public service. The question is: how can the public secure satisfactory transportation service at the minimum cost, and still deal fairly with those who have supplied the necessary capital? Obviously by reducing the risks of the transportation business to the minimum. It is a well-established economic principle that profits should be related to the risks incurred. If public policy subjects investments in railways to considerable risks it will be possible to attract ample capital if large profits are allowed to those who are fortunate enough to escape the risks. If the risks are reduced to the minimum, however, the requisite capital can be secured on more favorable terms by making appeal, not to speculators, but to investors. And what investors fundamentally want is a fair return on their investment.

The foregoing considerations constitute an argument for the

adoption of the original cost of construction as the basis of valuation. We realize that in part the original cost of constructing the property was met out of surplus earnings; and we agree that the people would have been justified in the days gone by in taking measures to cut down these surplus earnings. Yet they failed to do so; and we can not well confiscate them now. We realize that there have been issued many securities that were not backed by property, but only by the hope of monopoly gains; yet our point is not that we should allow a fair return on all the securities issued, but only on those that represent actual investment, either by stockholders, or by the railroads for the stockholders. We realize also that the early issues of securities were often of a character that appealed to the speculative public, many of whom would not now be satisfied with a moderate but reasonably assured return. Yet most of these individuals have already disposed of their securities, because the railroad business has lost much of its speculative character; and those who still retain them can not, in our opinion, complain of serious injustice if these speculative securities are now given an investment status. If these individuals still wish to continue in the rôle of risk takers *par excellence* they can dispose of their securities, and go into other fields. Certainly the railroads do not have to be maintained as speculative enterprises for the benefit of those who are speculatively inclined, so long as there remain oil and mining stocks in such abundance.

We have stressed what seems to be the outstanding advantage of the original cost basis. A few other advantages may be briefly mentioned. The original cost basis is the only one that can be kept up to date at all times by means of the adoption of correct accounting principles. Important though it be to ascertain the fair value (or amount) upon which a fair return is to be allowed, it is equally important to keep the valuation up to date, so that it is not necessary to make a new valuation every time the reasonableness of rates is called into question. The best and easiest way to accomplish this result is by means of the original cost basis. The fair value having once been ascertained, the valuation can be kept up to date thereafter by adding the cost of each new piece of property and by deducting the cost of each piece of property that is discarded. The valuation as thus automatically revised from time to time will not show the exchange value of the property,

of course, but it will show, as it should, the amount upon which the railroads are entitled to earn a fair return. Another advantage of the original cost basis is that it eliminates the fluctuations in the valuation resulting from changes in the prices of materials and the wages of labor. This is a tremendous gain, as will shortly appear.

The chief objection to the original cost basis—a severely practical objection—is the difficulty, and in many cases the impossibility, of ascertaining the original cost. The objection has more weight in the case of original cost as used in the first sense than as used in the second sense. It will seldom be possible to ascertain the amount actually invested in a railroad from the beginning. Many railroads have been in existence for at least half a century. In the early days of railroading the science of accounts was undeveloped, and even after it was developed and improved it was a long time before there was any uniformity in method. Large expenditures have been made on the property out of earnings, yet the accounts would not show to what extent these expenditures were of the nature of repairs and replacements, which should be charged to operating expenses, and to what extent they were of the nature of additions and betterments, which could properly be charged to capital account (that is, constitute a part of the original cost). Moreover, many of even such records as were made have been lost or destroyed (by fire and otherwise). It must be conceded, then, that the original cost of the property from the beginning can not be ascertained. The situation is by no means so bad if we use the term original cost in the second sense —the actual cost of the property now employed in the public service. The property *now in use* is not nearly so old as the property which it superseded, and there are those who claim that we can ascertain with substantial accuracy the original cost as thus conceived. If this be true the valuation should be made on this basis, yet there is grave doubt whether it be true. The original cost of the land used for roadbed and terminals is a very important item, yet in the case of numerous railroads this was acquired so long ago that its actual cost can not now be ascertained. The original cost in the case of most railroads would thus represent nothing more than an estimate. It is possible, of course, that even an estimated original cost would prove to be the best basis of valuation, yet this conclusion should not be accepted until we have examined the

cost of reproduction basis of valuation. Before proceeding to do so, however, we should make it clear that even if the original cost of construction be unsatisfactory as a basis for the present valuation, it is entirely practicable, under modern and approved accounting principles fully enforced upon the railroads, to employ it in the future. A fair value (or amount) upon which the railroads are entitled to a fair return having once been determined by some means or other, the valuation can (and should) be thereafter increased or decreased according as the bona fide investment is increased or decreased.

The objection is sometimes made that the original cost basis is defective, because it allows a return on funds that were recklessly or dishonestly spent. However, it is not necessary to carry the doctrine to this extreme; and the courts have so held. It would be entirely just to include in the original cost only the capital which actually and prudently has been put into (and remains in) the enterprise, or as a court put it, "the money reasonably and properly expended by the company in acquiring its property and constructing its works." The community is not in justice required to underwrite the losses of reckless or improvident management, though it may quite properly make due allowance for the inability of the management to expend the funds with superhuman wisdom or foresight. Neither is the community required to pay rates high enough to permit a return on excessive facilities, though it may (and should) encourage ample provision for future needs. The railroads must be prepared to serve future patrons as well as present patrons, otherwise there will be disastrous congestions in the service. Yet they can not justify investments in property that will not be used for many years, as, for example, the purchase by the Reading Company of sufficient anthracite coal lands to supply it with traffic for perhaps a century. At any rate, they can not include such expenditures in the original cost valuation, for the Supreme Court has properly held that what the railroads are entitled to is a fair return on the fair value of the property *being used by it for the convenience of the public.* The original cost basis, if reasonably interpreted, is not defective on this score, but solely on the ground of the practical difficulties in the way of its accurate measurement.

Cost of Reproduction

The term cost of reproduction, like the terms market value and original cost, is used in more than one sense. It is sometimes used to mean the cost of reproducing the property on the assumption that the property is new, that is, not depreciated. The cost of reproduction new is identical at the outset with the original investment, yet as time passes the two yield quite different results. This is particularly true if there have taken place considerable changes in the prices of commodities subsequent to the date of construction. The cost new would give a relatively high valuation, partly because of the marked advances in prices during the last generation, and partly because of the fact that it makes no allowance for the depreciated condition of the property. Since the cost new basis is highly favorable to the railroads it naturally has numerous adherents, yet the basis is inherently defective. It is a conclusive objection to this basis that the property is almost never new, but is in a depreciated state. As the Supreme Court said in City of Knoxville *v.* Knoxville Water Company, "the cost of reproduction [new] is one way of ascertaining the present value of a plant . . . but that test would lead to obviously incorrect results, if the cost of reproduction is not diminished by the depreciation which has come from age and use." [1] This judicial pronouncement is clearly in accord with common sense, and we may therefore dismiss the cost new basis from further consideration. It is desirable to point out first, however, that whenever a railroad has actually accumulated funds out of earnings, with which to take care of the depreciation, that these funds should be included in the cost of reproducing the property, and that in such cases the cost of reproduction less depreciation *plus depreciation funds* equals the cost of reproduction new.

The cost of reproduction is also used to mean the cost of reproducing the property in its present depreciated condition. The depreciation of the property can seldom be prevented, yet the accounts should show the extent thereof. One method of handling depreciation, as just explained, is to create depreciation funds out of earnings. These funds, being in the form of cash or securities, are available for the replacement of the depreciated property when necessary. The usual method, however, is not to create funds for

[1] 212 U. S. 9 (1909). See also 230 U. S. 456–458 (1913), and 246 U. S. 191 (1918.)

this purpose, but merely to provide for depreciation by a charge to operating expenses. This means that the operating expenses are increased by the amount of the estimated depreciation, despite the fact that there may have been no actual outlays on account of the depreciation. In a sense this results in the operating expenses being overstated, though not improperly. We shall not take the time to explain why this is not improper, except to say that the explanation is found in the fact that the term operating expenses, as used in accounting, does not always mean actual payments. Since the operating expenses are thus overstated, the difference between the receipts and the actual outlays is greater than the figure of profit reported by the railroad. To illustrate, a railroad reports gross receipts of $100,000,000; operating expenses of $66,000,000; all other expenses (including interest) of $28,000,000; leaving a net income available for distribution to stockholders of $6,000,000. In the operating expenses is included a charge of $4,000,000 to cover depreciation. This is a proper charge, since the depreciation has actually occurred. Yet, as we have assumed, the railroad did not actually pay out $4,000,000 for this purpose. What, then, has become of the $4,000,000 of receipts which were charged to operating expenses on account of depreciation, yet were not paid out for this purpose? Presumably they were invested in the plant. Assuming this to be the case we find that the assets of the company in the form of extensions or the like have increased by the amount of the depreciation. [1] The reader will now be able to see, we trust, why in ascertaining the present value of the property it is necessary to deduct depreciation. If we add to the cost of reproducing the original property the cost of reproducing that part of the property that was acquired through the expenditure of the $4,000,000 referred to above, and do not deduct depreciation that has actually occurred, we are padding the valuation. The property has depreciated (by $4,000,000, we assumed), but in order that the investment might not be impaired the railroad took $4,000,000 of its earnings, and with them acquired additional property equal in

[1] For the benefit of the reader who understands the meaning of a balance sheet we may say that the increase in assets resulting from the investment of $4,000,000 in the property is offset on the liability side of the balance sheet by a credit to reserves for depreciation. The latter item is a liability of the railroad to its stockholders, measuring the depreciation of the existing property; and it should not be confused with depreciation funds, which are sums (whether in the form of cash or securities) specifically set aside to replace depreciated property.

value to the accrued depreciation on existing property. Certainly it can not fairly include the $4,000,000 of new assets in the valuation and not deduct the $4,000,000 by which the former property has depreciated.

The cost of reproduction less depreciation basis has the approval of the courts; in fact, their tendency is to make this basis of valuation the controlling one. Yet this term also means different things to different people. It is usually conceived of as the cost of a substantially identical reproduction of the existing property, and this is the sense in which we shall use it. Yet does this mean the cost of reproducing the property under present (hypothetical) conditions, or under the actual conditions under which the property was originally constructed? For example, in building the right of way it may have been necessary to fell trees or to drain a swamp. In determining the cost of reproduction are we to assume that the trees are felled and the swamp drained (present conditions), or are we to assume that the trees will again have to be felled and the swamp again drained (actual conditions)? In this illustration the former method will give a lower valuation than the latter, yet other illustrations could be given in which the contrary was true. Again, does the term mean the cost of reproducing the property at *present* prices of materials, land, and labor, or at *normal* prices of materials, land, and labor? Bearing in mind the varying uses of the term, let us explain how the cost of reproduction is determined.

The ascertainment of the cost of reproduction involves first of all a physical valuation of the property. Unlike a market (or commercial) valuation, which originates on the exchanges, the physical valuation is made by engineers (and other experts) in the field. The engineers take account of stock in the same way that a retail merchant does. They make an inventory of the physical property in minute detail. The inventory shows fully itemized the number of ties of every kind, treated and untreated; the tons of rails of various classes; the number of yards of grading, divided into earth, rock, etc.; the locomotives, cars, terminals, stations, bridges, and what not. Account must also be taken of working capital, which includes cash, materials and supplies, etc. The inventorying of the land is of particular importance, and is usually intrusted to a special group of appraisers. The work of the engineering and land forces is then commonly checked by accounting and other experts in the office, who mull over the records of the rail-

road by way of supplementing the investigation of the field parties. The physical inventory having been completed, and due allowance having been made for depreciation, the next task is the application to the various items of property of the prices of materials, land, etc. Here arises the question referred to above: shall we take the prices of the date when the valuation is being made, or shall we take normal prices (perhaps the average prices during the past five or ten years)? The objection to taking the prices as of the date when the valuation is being made is that these prices may not be representative. For example, in 1920 wholesale prices in the United States for a large group of representative commodities were 126 per cent higher than they were in 1913 (the last prewar year), and 54 per cent higher than they were in 1921. Obviously it is not fair to the public to value the physical property of the railroads as of 1920. The objection to taking the normal prices is that it is difficult in these days of fluctuating prices to know what normal prices are. If we regard as the normal prices the average prices during the preceding five years, it may still be objected that these prices do not show the present cost of reproducing the property. The Supreme Court has said that "for [the] purpose of fixing rates the value of property employed should be determined as of the time when the inquiry is made." [1] And again, "it is impossible to ascertain what will amount to a fair return upon properties devoted to public service without giving consideration to the cost of labor, supplies, etc., *at the time the investigation is made.*" [2]

The ascertainment of the cost of reproduction also involves an inquiry into the nonphysical elements of value. In saying that a railroad is entitled to a fair return upon the fair value of its property, and that the cost of reproduction is one way of ascertaining that fair value, the Supreme Court did not confine the inquiry to the cost of reproducing the *physical* property. There are other elements of cost in establishing a going enterprise than the mere cost of the physical property. What these elements are, however, is the subject of bitter controversy. The attorneys for the railroads naturally endeavor to secure judicial and commission recognition and approval of as many other elements of value as possible, and the faithful representatives of the public endeavor to confine such recognition and approval to those elements that

[1] 212 U. S. 22 (1909).
[2] 262 U. S. 287–288 (1923). Italics supplied by the author.

may fairly be regarded as part of the cost of reproducing the enterprise. Without expressing an opinion at this stage as to the merits of the controversy, we may enumerate some of the possible additional elements of value: overhead charges, going value, franchise value, and good will. These items will be briefly discussed later in the chapter.

A number of objections may legitimately be raised to the cost of reproduction basis. An objection of great weight is the fluctuating character of a valuation based on present prices or even average prices. Prices have fluctuated markedly since 1914, rising with unusual rapidity during 1916 to 1919, and declining with even greater rapidity during 1920 and 1921. A valuation based upon such prices, even if they be average prices, would be a highly uncertain standard by which to test the reasonableness of railway charges. A phase of the same objection is the upward tendency of prices since 1896. Though prices declined rapidly during 1920 and 1921, they were some 122 per cent higher in 1922 than in 1896. Under the cost of reproduction theory the benefits of these higher prices go to the railroads in the form of a higher valuation. As the Supreme Court said in the Consolidated Gas case, "The value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property, which legally enters into the consideration of the question of rates, has increased in value since it was acquired, the company is entitled to the benefit of such increase. This is, at any rate, the general rule." [1] The higher valuation thus arrived at is, however, quite accidental; the railroad obviously contributed toward it in no way whatsoever. It clearly is not right that the people should be compelled to pay rates high enough to yield a fair return on such an inflated valuation; yet the Supreme Court has held that they must, and its decision is evidently in harmony with the cost of reproduction theory. The injustice resulting from the adoption of this basis will become clearer, perhaps, by considering the result of falling prices. There are those who believe that the general trend of prices will be downward during the next generation, reversing the movement after 1896. Should this prove to be the case, the valuation will steadily decline; and the railroads will be allowed a fair return on a steadily declining valuation. This outcome would be as unfair to them as the present arrange-

[1] 212 U. S. 52 (1909).

ment is unfair to the public, yet it is a poor rule that will not work both ways. However, if the railroads are to be subjected to this danger they can with perfect propriety demand that they be now compensated therefor in the rate of return, and the burden of a higher rate of profit will therefore fall upon the public.

Another serious objection to the cost of reproduction basis is the treatment of land values. Under this basis land that cost the railroad little or nothing is entered in the valuation on the basis of its present value. The practical importance of this matter can not well be exaggerated. For the country as a whole the value of railway land constitutes at least one-tenth of the total value of railroad property, and possibly as much as one-quarter.[1] The effect of valuing land on the basis of the cost of reproduction (or reacquisition) is, almost without exception, to favor the railroads. The cost of reproducing structures and equipment may decline, as the result of improved methods of production or of falling prices, yet the cost of reacquiring land seldom declines. There are periods, to be sure, when land values remain stationary, or decline somewhat, yet by and large their movement is upward, largely because of the steady increase in population. Moreover, a great deal of the land that is now entered at the cost of reacquisition was given to the railroads, and thus, in fact, cost them nothing. Must the people allow the railroads a fair return on the fair value of the property that they have donated to the carriers? Consider the outcome of applying the cost of reproduction theory in an extreme case. In 1908 the Washington Railroad Commission made an appraisal of the property of the Northern Pacific Railway. As a part of its appraisal it estimated the original cost of land for right of way and other railway purposes, and its cost of reproduction. It found that the right of way and real estate in the state of Washington originally cost the company $3,157,167,[2] and that the cost of reproduction was $32, 862, 872, or more than ten times the original cost.[3] The original cost was low, because nearly all of the right of

[1] Mr. Prouty, director of the Bureau of Valuation of the Interstate Commerce Commission, estimated (in 1917) the value of railroad land at one-quarter of the total value of railroad property. See *Annals of the American Academy of Political and Social Science*, 63, p. 178.

[2] The railroads of Washington are not so old as most American railroads, and the ascertainment of the original cost of their land is thus not so difficult.

[3] Whitten, R. H., *Valuation*, pp. 161–162, and Second and Third Annual Reports of the Washington Railroad Commission.

way had been donated by the government to encourage the building of the road; and the cost of reproduction was high, because the terminal property in Seattle, Tacoma, and Spokane had increased enormously in value. Nevertheless, if the cost of reproduction was correctly estimated by the Washington Railroad Commission (which is doubtful), the railroads would be entitled, under this theory,to earn a fair return on a value of $32,862,872, rather than on a value of $3,157,167. The Interstate Commerce Commission had occasion to consider this general topic in 1909 in connection with a complaint of the City of Spokane against the rates charged by the Northern Pacific Railway, and it then said: "Whether, under the laws and Constitution of the United States, our railroads can demand a return not only upon the money which has been actually invested in these properties, but also upon this value, which has grown from almost nothing to vast proportions without the expenditure of money or the assumption of risk, is a question of tremendous importance." [1] This question [2] has now been decided, and in favor of the railroads, as we shall shortly indicate.

The advocates of the cost of reproduction theory as applied to land have not only argued that a railroad is entitled to include land, even donated land, in the valuation at its present value, but that the present value is in excess of the market value of similar and adjacent land. Their argument is that in reacquiring the land for the purpose of reproducing the property the railroad would be compelled to pay more for the land than it was really worth. Under the rule of eminent domain, to be sure, the railroads have the right to take land for railway purposes by making just compensation to the owners, yet it is claimed that in fact, because of the injury resulting to adjacent land, etc., the railroads are obliged to pay more than the market value of the land for non-railway purposes. Therefore, it has been contended, in arriving at the fair value of railway land, the market value of adjacent land should be increased by certain multipliers. The Supreme Court passed upon this contention, and upon the general question raised in the preceding paragraph, in the famous Minnesota Rate cases, decided in 1913. It held that it was not

[1] 15 I. C. C. Reports 415.

[2] We do not refer here to the valuation of the Washington Railroad Commission, but to the principle involved in the query of the Interstate Commerce Commission.

proper to place a value upon the right of way, yards, and terminals in excess of the value of similar property owned by others, merely because of "a conjectural cost of acquisition and consequential damages." We quote: "The company would certainly have no ground of complaint if it were allowed a value for these lands equal to the fair average market value of similar land in the vicinity, without additions by the use of multipliers, or otherwise, to cover hypothetical outlays." [1] Though the Supreme Court in its decision refused to sanction the use of multipliers, it did intimate that the lands of the railroad, no matter what their original cost, might properly be included in the valuation substantially at their market value (as measured by the market value of similar land in the vicinity).

The cost of reproduction theory as applied to land thus gives the railroads the benefit of the unearned increment—that increase in value that has resulted from the development of the country. In this connection we may recall a remark made by Mr. J. P. Cotton in 1910, before the federal government had passed the Valuation Act (1913), providing for the valuation of the railroads of the country. Mr. Cotton was opposed to a valuation, yet he hazarded the guess that if one were made, it would show that the New York Central, for example, was worth more than the sum for which it was capitalized. This would be the result, he said, not because the stock was free from water, but because the terminal and water front properties of the railroad, on account of the very presence of the railroad, had increased vastly in money value. Indeed, he said, "that is going to be one of the inevitable 'jokers' in railroad valuation if we ever come to it." [2] Bearing in mind the fact that railroads are formed to supply transportation service, and not to speculate in land, can we not prevent this "joke" from being played on the public? Even if we accept the cost of reproduction basis it is possible to do so, providing we adopt an ingenious plan that has actually been employed by the New York Public Service Commission for the First District.[3] According to this plan, if land has actually appreciated, it is included in the valuation at the appreciated value, but the average annual appreciation is reckoned as a

[1] 230 U. S. 455.
[2] *American Economic Association Quarterly*, vol. 9, no. 1, p. 253.
[3] 2 P. S. C. Reports 585–587 (1911).

portion of the income. The owners of a railroad thus take part of the fair return on the fair value to which they are entitled in the form of cash, and part in the form of an increase in land values, which may thus be regarded as being reinvested in the property for their benefit. If it be argued that the owners of the railroad do not under this plan actually receive all of the fair return to which they are entitled, it may be replied that neither do they actually receive it when a portion of the fair return is voluntarily reinvested by them in the business. Yet in both cases the deficiency in the fair return actually paid out to owners is reinvested in the property, that is, in the sense that it increases the fair value upon which they are thereafter entitled to a fair return. This plan has received the approval of Mr. Whitten, the author of the standard work on valuation, who believes such an adjustment of the reproduction method is necessary to make it conform to fundamental principles of equity.[1] To date, however, the courts have seldom, if ever, given their approval to the plan; and as matters now stand the benefits of rising land values accrue to the railroads.

A third objection to the cost of reproduction basis is that through the persuasive powers of railroad counsel items are included in the cost of reproduction that do not fairly belong there. Again, items that do belong there are included at an excessive valuation. The public servants must therefore be continually on guard to prevent the padding of the valuation by these means. This objection, it should be noted, is not applicable when the cost of reproduction is fairly determined, yet the inherent difficulties of the subject, combined with the fact that the railroad lawyers and experts know more about its manifold intricacies than the judges do, are likely to bring it about in practice that injustice is done to the public.

The danger of a padded valuation becomes clear when we apply the cost of reproduction theory to the nonphysical elements of value, the so-called overhead and intangible values. Let us consider overhead charges first.

Though opinions differ as to what should be included in overhead charges, the following items are usually included (sometimes others): expenses connected with the organization of the company; expenses of engineering and supervision, including preliminary

[1] Whitten, R. H., *Valuation* (1912), p. 125.

surveys, the location of the exact route, the preparation of specifications and designs, the letting of contracts, and the supervision of construction; interest charges during the period of construction; and contingencies, to cover items of expense that can not well be foreseen, yet which are almost certain to be present. These items, and no doubt others not here enumerated, may all properly be included in the cost of reproduction; the problem is merely how much allowance to make for them. The matter is difficult because few railroads, even though they be similarly situated, have the same overhead expenses; the standardization of the costs is almost impossible. Nevertheless their amount must be determined. In practice two methods are employed. One method is to examine the early records of the company to find out exactly what was expended for these purposes; the other method is to add a certain percentage to the cost of reproduction. The objection to the first method is that the records are often missing or inadequate; and the objection to the second is that the commissions and courts do not agree upon the percentage to be added. We have here, therefore, conditions favorable for the exercise by the railroad experts of their special talents; and the outcome is likely to be unfavorable to the public interest unless the commissions and courts keep their wits about them.

The intangible values usually include going value, franchise value, and good will. Going value is variously defined, but is here regarded as "the uncompensated losses incurred in the development of the business," or again as "the accumulated deficiency in fair return on actual investment." The argument for including going value in the valuation is that the early losses (if actually incurred) are as much a part of the cost of establishing the enterprise as is the cost of constructing the physical plant. Whether this argument is sound would appear to depend on the circumstances of the case, and particularly on whether we have in mind a policy for the past or for the future. As regards losses incurred in the past (especially in the days before regulation became effective) we do not see how they can fairly be included in the valuation. We have earlier expressed the view that the railroads may properly retain past profits which they have reinvested in the business, even though these profits were excessive. The people should have prevented the railroads from making excessive profits, yet they did not do so; and now it is too late. If, then,

we allow the railroads to include in the valuation the excessive *profits* of the past, shall we also allow them to include the *losses* of the past? To do so would be to favor the investor and injure the public in both cases. It would appear more equitable to treat the past as a closed episode. In the past some railroads made excessive profits, and distributed them to the stockholders (or insiders). These profits we can not now recover. Other railroads made excessive profits, and put them back in the business. These profits we can not now recover without serious discrimination. Other railroads made inadequate earnings, and even sustained losses. To the stockholders of these roads we may extend our sympathy, but must we make good their losses? To do so would appear to be highly illogical. Consider a concrete case. Suppose that there are two railroads, each of which cost $100,000,000 to build. Suppose that these railroads compete with one another, and for all practical purposes are unregulated. One road, we assume, has sufficient earnings to maintain its property in good condition, to pay reasonable dividends to its stockholders, and to reinvest in the property during a period of ten years $60,000,000 of surplus earnings. At the end of the ten-year period its original cost and its cost of reproduction (assuming prices and costs to remain unchanged) would both amount to $160,000,000. The second railroad, we assume, has sufficient earnings to maintain the property in good condition, but that is all. It has no earnings available for the stockholders or for reinvestment. At the end of the ten-year period its original cost and its cost of reproduction would be $100,000,000. Should we (assuming that reasonable dividends throughout the period would amount to $60,000,000) *call* the second road worth $160,000,000, because the railroad (though a competitive enterprise unregulated by the government) fell $60,000,000 short of an adequate return? To do so would be to assert that the less a railroad earned, the more valuable its property becomes. The proposition is clearly unreasonable.

The case is otherwise in some respects as regards future policy. The principle is now firmly established that railroads are entitled to only a fair return on the value of the property, and regulation for the purpose of carrying out this principle may be regarded as reasonably effective. If a railroad is now newly constructed, and if during its early life it fails to realize a fair return, it should be allowed at some time in the future to make up this early deficiency,

otherwise investments in railways will be discouraged. This does not mean, of course, that new lines are to be *guaranteed* a fair return nor to be allowed to charge *excessive rates* for the purpose of enabling them to recover their early losses. Quoting from a decision of the Wisconsin Railroad Commission, "When such deficits are due to abnormal conditions, or when due to bad management, defective judgment, extravagance, lack of ordinary care and foresight, unduly high capital charges, and other causes of this nature, it is manifestly clear that they should be accorded little or no consideration in either the valuation or the rates." [1] Again, if we are determining the cost of reproducing railroad property, we should make similar allowance for the early losses to which such railroads would be subjected, providing, of course, that the reproduced railroads would have to go through a preliminary period of inadequate earnings. Yet it does not follow that this allowance should be made by adding the early losses to the valuation. It is entirely possible to make requisite allowance in the fair rate of return on the valuation. Opinions differ as to which method is preferable, and space is not available to discuss the point. What is of importance in this connection is that the going value be not improperly added to the valuation, otherwise the latter will be unduly inflated, and rates will be unreasonably high.

Franchise value represents the value of the privilege to build a railroad, and to operate it in the service of the public at reasonable rates. Under the original cost basis no allowance should be made for franchise value unless the railroad actually paid for the privilege; and under the cost of reproduction basis no allowance should be made for franchise value unless in reproducing the line the railroad would have to pay for the privilege. The reason is that the franchise is given to the railroad, subject to the legislative right to regulate rates in such manner as to limit the railroad to a fair return. If the earnings are excessive the franchise may have a market value, yet since the legislature has the undoubted power to reduce rates (and thus earnings) to a reasonable figure, the railroad can not properly include the value of the franchise in the valuation on which the fair return is reckoned.[2] Other-

[1] 4 W. R. C. Reports 586.

[2] In Willcox *v.* Consolidated Gas Company (212 U. S. 19–55) the Supreme Court sanctioned the inclusion of the value of the franchise in the fair value of the property of a gas company, yet the case was unusual, and the Supreme Court distinctly said that it was not to be regarded as a precedent.

wise the reasonableness of rates would be determined by reference to a standard which is itself the result of the very rates into the reasonableness of which inquiry is being made. If it be argued that franchises, like rights of way and terminal property, were donated to the railroads, it may be replied that the land was usually given outright, whereas the franchises were given subject to the reserved right to hold rates down to a reasonable level, and thus subject to the right to squeeze out franchise values.

Good will has been defined substantially as that good disposition which customers entertain toward a particular concern, which induces them to continue to patronize it. Obviously good will is a characteristic of competitive enterprises only; it can not inhere in a monopolistic concern which the people must patronize whether they wish to or not. The railway business, it is sometimes argued, is really a competitive one; a "reputation for certainty and despatch of freight and for safety in passenger carriage may cut a not inconsiderable figure in receipts." It is true that there is still competition among railways in the supplying of service, but this competition is always at rates sanctioned by the government. The truth is that our railway legislation is framed on the theory that railways are monopolies; and this is especially true since the passage of the Esch-Cummins Act in 1920. It may be observed, moreover, that the practical difficulties in the way of establishing a level of rates that will be adequate for most railroads without being excessive for some will enable those railroads that actually enjoy good will to profit thereby. Yet since the people possess the right to reduce the rates of the prosperous roads to a reasonable level, these roads can not well claim an allowance for good will in the valuation on which a fair return is to be calculated. Moreover, if good will is to be added to the valuation, may not ill will appropriately be deducted from the valuation? And if so, would the railroads be the gainers or the losers?

The cost of reproduction theory is thus unsatisfactory in numerous respects as a basis of valuation. Its unreality is well brought out by one writer, who says: "The 'reproduction theory' contemplates an imaginary community in which an imaginary corporation makes imaginary estimates of the cost of an imaginary railroad." To quote from another writer—a justice of the Supreme Court of the United States—"the conviction is wide-spread that a sound conclusion as to the actual value of a utility is not

to be reached by a meticulous study of conflicting estimates of the cost of reproducing new the congeries of old machinery and equipment, called the plant, and the still more fanciful estimates concerning the value of the intangible elements of an established business." [1] Unsatisfactory though it be, it is the most generally accepted basis of valuation for rate purposes, and we shall doubtless have to make use of it, reasonably determined, unless the original cost can be ascertained. There are those, indeed, who believe that the original cost can be ascertained with a reasonable degree of accuracy, or at least more accurately than the cost of reproduction, which, after all, represents nothing but an estimate. [2] To quote a well-known valuation expert: "The actual, efficient sacrifice of the investor, as revealed in accounting and other historical studies, supplemented by engineering advice as to the adaptability and present condition of properties for the purpose intended, will count far more than the estimates of engineers as to what it will cost to buy again land that will never be bought again, to duplicate property that will never have to be duplicated, and to build up a business that will never again have to be built up." [3] If this be true, we should proceed along these lines; if not, we shall have to give large weight to the cost of reproduction in determining the fair value of railway property.

Yet whatever be our decision as to the method of determining the *present value* of the property there can be little doubt as to the procedure to be followed in the *future*. Let the amount upon which the railroads are entitled to earn a fair return be established by some basis or combination of bases, and require this figure to be taken on the books of the railroads as the cost of their property. Thereafter the valuation should be kept up to date through an accurate record of the bona fide investment in the property. By means of repairs and replacements the existing property should be maintained intact in so far as it is possible and desirable. It

[1] Brandeis, L. D., dissenting opinion in Southwestern Bell Telephone Company case, 262 U. S. 301 (1923).

[2] The dependence of cost of reproduction figures on "estimates," "judgment," "imagination," "expert opinion," etc., is well developed in Vanderblue, H. B., *Railroad Valuation*, chs. 2–4, and Vanderblue, H. B., *Railroad Valuation by the Interstate Commerce Commission*. For an indictment of expert (or opinion) testimony in rate valuation cases, see Gray, J. H., *Utilities Magazine*, 1, pp. 192–204.

[3] Bemis, E. W., *Proceedings of the Twenty-fifth Annual Convention of the National Association of Railway Commissioners*, 1913, p. 322.

will not always be possible to prevent the property from depreciating, yet the depreciation can be provided for by a charge against operating expenses, so that funds will be available for replacing the depreciated property when the time comes to abandon it. Again, it will not always be desirable to maintain the existing property; there may no longer be any need for it. Such final abandonments of property should be deducted from the cost figure on the books, as additions and betterments should be added to the cost figure on the books. By the use of correct accounting methods under the watchful eye of the Interstate Commerce Commission it will be possible, once having established a fair value (or just amount), to keep it up to date without resort recurrently to new and expensive valuations. By this means, moreover, the relations between the railroads and the public will be put on a more cordial basis, with the consequent elimination of much of the friction that characterizes present-day relations.

That this program is feasible, that is, will not meet with undue obstruction by the courts, seems probable. Rate making, it will be recalled, is a legislative function, and not a judicial one. As the Supreme Court said in the Minnesota Rate Cases, "the rate-making power is a legislative power and necessarily implies a range of legislative discretion. We do not sit as a board of revision to substitute our judgment for that of the legislature, or of the commission lawfully constituted by it, as to matters within the province of either."[1] When the courts interfere with this rate making power they do so in order to prevent confiscation; and in dealing with alleged confiscatory legislation the courts, it would seem, evolved the rule of fair value, because no basis had been provided by Congress. What is needed, then, is a *statutory* rule of rate making. This involves, first, a legislative (or commission) determination of the value (or amount) upon which a fair return is to be allowed, a topic that we have considered; and it involves, second, a legislative (or commission) determination of the fair rate of return, a topic to which we now proceed.

Fair Rate of Return

What is a fair rate of return? In the words of the Railroad Securities Commission (1911), it is "one which under honest accounting and responsible management will attract the amount of

[1] 230 U. S. 433 (1913).

investors' money needed for the development of our railroad facilities."[1]

Let us develop this concept. The definition refers to "honest accounting." To appreciate the significance of this expression it should be borne in mind that the reason for ascertaining the fair value of the property and the fair rate of return is merely to determine the amount of money to which the investors are entitled. In determining this amount allowance must of course be made for the necessary expenses of operation.[2] These necessary expenses include operating expenses and taxes. The operating expenses include allowances for depreciation, of course. We have referred to depreciation earlier, but the matter is so important that we refer to it again, using the language of the Supreme Court: "Before coming to the question of profit at all the company is entitled to earn a sufficient sum annually to provide not only for current repairs but for making good the depreciation and replacing the parts of the property when they come to the end of their life. . . . It is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is its duty to its bond and stockholders, and, in the case of a public service corporation at least, its plain duty to the public."[3] It is thus clear that unless the operating expenses are charged with repairs, replacements, and such depreciation as is not taken care of through current replacements, the profits will be less than those shown on the books. It is equally clear that if the operating expenses are improperly charged with additions and betterments, the profits will be greater than those shown on the books. In the former case a portion of the funds received by the investors represents the return to them of part of their capital; in the latter case the capital of the company is being increased at the expense of the public (through the building up of secret reserves). Honest accounting is thus necessary in the determination of the amount of money to which the investors are entitled.

The definition refers also to "responsible management." Quot-

[1] Page 34.

[2] Rates may be said to be reasonable when the gross receipts equal the operating expenses plus taxes plus a fair return on the fair value of the property. It is assumed, of course, that the operating expenses are reasonable.

[3] 212 U. S. 13–14 (1909).

ing the Supreme Court again, "We do not wish to be understood as laying down as an absolute rule, that in every case a failure to produce some profit to those who have invested their money in the building of a road is conclusive that the tariff is unjust and unreasonable. . . . There may be circumstances which would justify such a tariff; there may have been extravagance and a needless expenditure of money; there may be a waste in the management of the road; enormous salaries, unjust discrimination as between individual shippers resulting in general loss." [1] In saying that railroads are entitled to a fair rate of return, then, it must be assumed that their investment has been made with reasonable prudence, and that their management has been conducted with reasonable efficiency. Conversely, when the investment has been made with unusual judgment and the property has been operated with unusual efficiency the railroad should receive corresponding rewards.

With the aforementioned qualifications in mind, a fair rate of return may properly be regarded as one that will "lead to the continued investment of capital in railroads"; that will "attract the additional investments of capital that recurrently become necessary." Any higher rate than this would impose on the people an unnecessary burden, to which they should not submit. Any lower rate than this would be unfair to the investors, and incidentally would discourage further investments in railways, and result in an inferior quality of service. It is thus to the public interest to permit an adequate rate of return. We use the word "adequate" advisedly. Conceivably the rate of return might be set high enough to prevent its being declared confiscatory by the courts, and yet not high enough to protect past investments and to induce additional investments. Capital is proverbially timid, and when prudently invested in a public service business is entitled to fair treatment. The capital already invested is "sunk," to be sure, and can seldom be withdrawn. None the less, advantage should not be taken of this fact, even were the courts to permit. Apropos of this matter the Supreme Court has said: "Our social system rests largely upon the sanctity of private property, and that State or community which seeks to invade it will soon discover the error in the disaster which follows. The slight gain to the consumer, which he would obtain from a reduction in the rates charged by public

[1] 154 U. S. 412 (1894).

service corporations, is as nothing compared with his share in the ruin which would be brought about by denying to private property its just reward, thus unsettling values and destroying confidence." [1] Not only is capital timid, but it is also mobile. Billions of capital will be required by the railroads in the future, and unless the rate of return is adequate these billions will not be forthcoming, but instead will be diverted to other industries. They will not be diverted to other industries, however, even though these industries be more remunerative, if the rate of return on railroad investments be adequate. And by an adequate rate we do not mean a comparatively high rate; on the contrary, since the business is monopolistic in character, and is relatively stable, a low rate, if reasonably well assured, will suffice. Yet adequate it must be; and not merely nonconfiscatory.

Concretely, what rate of return is fair? To this question no definite answer can be given. There is no one rate that is fair in all cases and at all times; the fair return depends on the circumstances peculiar to the occasion. Fundamentally, however, the controlling consideration is the degree of risk involved. If there were no risk whatsoever, the fair rate of return would be the rate of interest on the highest grade securities; and the fair return, though fluctuating somewhat, would be relatively stable. In fact, however, risk is present, and always will be unless the government *guarantees* the investors their return. Since risk is involved the rate of return is a composite, consisting in part of interest, and in part of profits, the latter constituting a reward for the risk taken. Among the risks are the danger of competition from other forms of transportation, for example, water ways and motor trucks; the decline of population and traffic in the territory of a particular railroad; the falling off of traffic on account of industrial depressions; the practical cessation of operation on account of labor difficulties; the inability to secure good management; and the like. From such risks the railroad investors can not be entirely protected; and for these risks allowance must be made in the rate of return. There are other risks from which the railroads have suffered in the past, but from which they can (and should) be protected. These include the competition of unnecessary railroad lines; rate wars leading to inadequate charges; restrictive legislation resulting in abnormal expenditures or inadequate rates; the raids of financial buccaneers;

[1] 212 U. S. 18 (1909).

and the like. If these risks are eliminated the rate of return can be reduced correspondingly, and this without injury to railroad investors. Another risk—one which has played great havoc of recent years—is that of wide fluctuations in prices and interest rates. Rising prices, and the higher wages to which they give rise, increase the costs of operation. Moreover, though there is no exact relationship between prices and interest rates, the fact is that interest rates also advance (usually) in a period of rising prices. At the same time that the dividends are thus imperilled, their purchasing power declines. Unless, then, the advance in prices is accompanied by an increase in traffic, higher freight and passenger rates will become necessary. Nevertheless there is always the danger that permission to increase railroad charges will be withheld entirely or postponed too long, especially in view of the fact that the railroads are now required to prove the reasonableness of proposed increases in rates. For all such risks the investors should be reimbursed in the rate of return.

Since a definite and unchanging rate of return can not be adopted for the future, it will be necessary for the fair rate to be determined from time to time. In the Esch-Cummins Act of 1920 Congress fixed the fair rate at 5½ per cent, but it authorized the Interstate Commerce Commission to add ½ of 1 per cent to make provision for betterments, etc., which were chargeable to capital account. The rate of return established by Congress was upon the aggregate value of the property; no attempt was made to fix a fair return on the value of the property of each railroad. In general, legislative specification of the fair return is not advisable; a standard thus established is too inflexible and inelastic, and too likely to become involved in party politics. Such a task is better confided to an independent administrative agency like the Interstate Commerce Commission, which should have no politics. The Esch-Cummins Act wisely provided, therefore, that after March 1, 1922, the Commission might fix whatever rate of return it regarded as fair. Acting in accordance with this authority, the Commission in May, 1922, fixed the fair rate of return at 5¾ per cent.[1] In the past the courts have also decided what constituted a fair rate of return, though whether they will do so now that Congress has conferred this authority on the Commission remains to be seen.

It may seem to the reader that 5¾ per cent is too low a return,

[1] Cf. p. 579.

and this conclusion would doubtless be warranted as regards the return on capital stock (the share of the principal risk takers). Funds would not be forthcoming for the purchase of railroad common stocks on a 5¾ per cent basis unless the risk were less than usual. Yet the rate of 5¾ per cent is not upon the stock, but upon the aggregate value of the railway property. And this aggregate value is represented in part by bonds and notes, and in part by preferred and common stocks. The bonds, representing a prior claim to the earnings, and therefore a lesser risk, bear a relatively low interest rate, and as a result there may be more than 5¾ per cent for the common stock. To take a concrete case, suppose a particular railroad has a capitalization exactly equal to the value of its property, and suppose that the capitalization is constituted of bonds and common stock in equal proportions. If then the bonds pay 5 per cent interest, there will be available 6½ per cent for the common stock. If the bonds pay 4½ per cent, there will be 7 per cent available for the common stock. Suppose now that of the railroad's capitalization three-fourths is represented by bonds and one-fourth by common stock. If the bonds bear 5 per cent, the stock will earn 8; if the bonds bear 4½ per cent, the stock will earn 9½. It is obvious that the larger the proportion of the capitalization that is represented by low interest-bearing bonds, the greater the earnings that are available for distribution to the stockholders. The result is that there is a temptation for railway managers to secure the additional funds that they require by the sale of bonds. Yet this may be carried to an extreme, and thus endanger the solvency of the enterprise. The public is therefore interested in the regulation of the issues of railway securities,—a topic to which we turn in the following chapter.

REFERENCES

Allison, J. E.: "Ethical and Economic Elements in Public Service Valuation," *Quarterly Journal of Economics*, vol. 27, pp. 27–49 (November, 1912).

Bauer, John.: "The Control of Return on Public Utility Investments," *Political Science Quarterly*, vol. 31, pp. 260–288 (June, 1916).

——: "Bases of Valuation in the Control of Return on Public Utility Investments," *American Economic Review*, vol. 6, pp. 568–588 (September, 1916).

Brandeis, L. D.: Dissenting opinion in Southwestern Bell Telephone Company *v.* Public Service Commission of Missouri, 262 U. S. 289–312 (1923).

EASTMAN, J. B.: "San Pedro, Los Angeles and Salt Lake Railroad" (Valuation Docket no. 26), *Interstate Commerce Commission Reports*, vol. 75, pp. 523–567 (June 7, 1923).

GRAY, J. H.: "The Regulation of Public Service Corporations: the Vagaries of Valuation," *American Economic Review*, vol. 4, pp. 18–44 (March, 1914, Supplement).

HARTMAN, H. H.: *Fair Value*, chs. 5–9 (1920).

HAYES, H. V.: *Public Utilities: their Cost New and Depreciation*, ch. 7 (1913).

——: *Public Utilities: their Fair Present Value and Return*, pp. 18–37, 80–96, 123–130, 159–174, 195–203 (1915).

HENDERSON, G. C.: "Railway Valuation and the Courts," *Harvard Law Review*, vol. 33, pp. 902–928 (May, 1920); and vol. 33, pp. 1031–1057 (June, 1920).

RICHBERG, D. R.: "A Permanent Basis for Rate Regulation," *Yale Law Journal*, vol. 31, pp. 263–282 (January, 1922).

RIPLEY, W. Z.: *Railroads: Finance and Organization*, ch. 11 (1915).

Utilities Magazine, "Proceedings of the Conference on Valuation," vol. 1, pp. 1–227 (January, 1916).

VANDERBLUE, H. B.: *Railroad Valuation*, ch. 7 (1917).

WHITTEN, R. H.: *Valuation of Public Service Corporations* (1912), and *Supplement* (1914). See, among others, pp. 687–712 (1912), and pp. 817–840 (1914).

CHAPTER XVI

REGULATION OF SECURITIES

A railroad president, writing in 1891, said: "The question of capitalization concerns the stockholders, and the stockholders only. A citizen, simply as a citizen, commits an impertinence when he questions the right of any corporation to capitalize its properties at any sum whatever."[1] Times and opinions have changed since 1891, and few railroad presidents would publicly subscribe to this view to-day. It is now recognized that the government must control the capitalization of *railroad* corporations, not alone for the protection of investors, but also for the protection of the public. In this chapter we propose to explain why the regulation of the securities of railway corporations is necessary, and why this regulation must be entrusted to the federal government.

Necessity of Regulation

Speaking generally (we shall speak specifically later), regulation is necessary to prevent overcapitalization, to prevent the issuance of securities in excessive quantities. But what constitutes overcapitalization? What makes the issue of securities *excessive*? On this matter there is naturally much disagreement, because there are widely varying views as to the proper basis of capitalization. One view is that the capitalization should stand for the investment of the bondholders and stockholders, that every dollar of securities should represent a dollar contributed by the investors. The prime merit of this basis is that it supplies a record of the actual contribution of investors, either in cash or its equivalent.

Another view is that the capitalization should stand for the investment in the property, that is, for the original cost, as we used the term in the chapter on Valuation. On behalf of this basis it is urged that profits realized by the railroad, but withheld from the stockholders and reinvested in the property, are

[1] *North American Review*, 152, p. 446.

as truly a contribution by the investors as if they actually put up the cash. The railroad might have distributed these profits to the stockholders in the form of cash dividends, and it might then have secured the funds needed for additions and betterments by the sale of a new issue of stock for cash. What, then, is the objection, it is asked, in capitalizing such expenditures of this nature as have been made with the stockholders' money? In view of the fact that it has been a characteristic practice of American railroads to reinvest a portion of the profits in the property, this question has inevitably come before the commissions entrusted with the regulation of railway security issues. As a rule the state commissions have permitted the issuance of stock (as a gift) to cover capital expenditures, presumably in order not to discourage the practice of making improvements out of earnings.

A third view is that the capitalization should equal the cost of reproducing the property. The argument is that the capitalization should be brought into correspondence with the "fair value" of the property, and that a company can not be regarded as overcapitalized if its outstanding securities do not exceed the value of its property for rate making purposes. We have already pointed out the objection to the cost of reproduction as a basis of valuation, and even if it should be accepted for that purpose (from necessity) it does not follow that it must be used as the basis of capitalization.[1] The principal disadvantage of the cost of reproduction basis is that it is unstable. The cost of reproduction fluctuates with the movement of prices of materials, land, and labor; and a capitalization based on the cost of reproduction must needs fluctuate correspondingly. It would be feasible to *increase* the volume of the company's securities as the value of the property advanced, but not so easy to *decrease* the volume as the value declined. Yet, whether it is feasible or not, why subject the security holders to this inconvenience?

A fourth view is that the proper basis of capitalization is earning capacity. If a railroad can earn $6,000,000 on the average, and if the current rate of interest is 6 per cent, the capitalization may properly be $100,000,000, it is argued, no matter how much has been invested in the property nor how much it would cost to reproduce it. The principal objection to this

[1] See on this point Bonbright, J. C., *Railroad Capitalization*, pp. 67–73.

basis is that it conceals the relation between rates and profits. If the rates, and thus earnings, are excessive, and if these earnings are capitalized at the current rate of interest, the profits on the capitalization do not appear to be excessive. For example, suppose the original cost of building a railroad was $100,000,000, the cost of reproducing it is $200,000,000, and the net earnings are $24,000,000. The net earnings amount to 24 per cent on a capitalization based on original cost. They amount to 12 per cent on a capitalization based on cost of reproduction. Yet they amount to only 6 per cent on a capitalization based on earning capacity,[1] which is a moderate rate of earnings. By such means is the public likely to be deceived as to the profits of the railroad; and this is the reason, of course, why some favor the earning capacity basis. A capitalization based on earning capacity would also be a fluctuating figure, because the earning capacity of particular railroads varies from time to time.

This brief discussion of the principal bases of capitalization should make it clear why opinions differ as to whether the railroads are overcapitalized or not. Usually the difference of opinion results from the acceptance of a different basis of capitalization. Without endeavoring to argue exhaustively for one basis or the other, the author would state his preference for a capitalization based on the investment, whether this be the contribution by the investors, or the investment in the property (including in the latter the reinvestment of profits). Accepting the investment basis of capitalization, let us point out the leading occasions on which overcapitalization has arisen,[2] and then explain why the practice is sufficiently harmful to make regulation necessary.

(1) Overcapitalization has often arisen in the construction of a railroad. For example, the original Southern Pacific road cost only $6,500,000, yet the bankers' syndicate which financed the line received $40,000,000 in securities.[3] The Union Pacific Railroad upon its completion in May, 1869, had outstanding $110,966,812 in securities, though the cost of construction was only $60,467,641.[4] All of the stock, amounting to $36,762,300,

[1] $24,000,000 capitalized at 6 per cent equals $400,000,000. Therefore, earnings of $24,000,000 equal only 6 per cent on a capitalization of $400,000,000.

[2] On this subject, see Ripley, W. Z., *Railroads: Finance and Organization*, pp. 223–280.

[3] *Industrial Commission*, XIX, p. 406.

[4] White, H. K., *History of the Union Pacific Railway*, pp. 35-36.

was thus water, that is, represented no investment. Whether or no a superfluous issuance of securities was necessary in view of the speculative character of much of the early railway construction, the fact is that the practice was widely resorted to. It was not uncommon for the requisite funds to be secured through an issue of bonds, the sale of the bonds being promoted by the gift of stock as a bonus. Conceivably the resort to bonds could have been avoided, and the funds for construction obtained by the sale of stock at par to those speculatively inclined. Yet this method of financing often failed to fit in with the plans of the promoters, who preferred to build the road with the bondholders' money, and to secure their recompense as promoters through the establishment of a value for such stock as they were able to convey to themselves for their promotion services. Stock watering as a phase of construction is by no means confined to early history. In 1909 the Chicago, Milwaukee and St. Paul Railway completed an extension to the Pacific Coast through a subsidiary, the Chicago, Milwaukee and Puget Sound Railway. The subsidiary secured the bulk of the necessary funds by conveying to the parent company $100,000,000 of its bonds and its entire capital stock ($100,000,000) in return for $100,000,000 in cash. All of its stock, therefore, was water.

(2) Overcapitalization has also come about through the capitalization of expenditures that should have been defrayed out of current earnings. Correct accounting demands that the expenses of operation, including maintenance of way and equipment, be met out of earnings. If, however, the expenditures for maintenance are less than they should be, the profits available for distribution in dividends will be correspondingly increased. These will not be bona fide profits, yet they may well be in the form of cash. Assume now that the profits are distributed to the stockholders. Since the property has been allowed to run down it will be necessary sooner or later to make unusually heavy expenditures for maintenance. To secure the requisite funds securities may perhaps be sold, in which event overcapitalization has resulted. This can be illustrated by the experience of the Chicago, Rock Island and Pacific Railway, which failed in 1915.[1] Shortly before its failure the road had issued a statement, which ap-

[1] See Ripley, W. Z., *Railroads: Finance and Organization*, pp. 236-237, and *Commercial and Financial Chronicle*, vol. 98, p. 1536 (May 16, 1914).

peared to show that the property was being well maintained. Subsequently, however, it appeared that about half of the company's freight cars were worn out, and needed to be replaced at a cost of $15,000,000, and that deferred maintenance would require an additional expenditure of nearly $9,000,000. These two items alone changed a reported profit of $13,600,000 into a deficit of over $10,000,000.

(3) Overcapitalization has taken place most commonly perhaps through stock dividends. A stock dividend usually takes the form of an outright gift of stock. If the stock dividend is 10 per cent, every holder of ten shares receives an additional share as a gift;[1] and if the stock dividend is 100 per cent, every holder of ten shares receives ten additional shares as a gift. Instead of giving the stock to its shareholders the railroad may sell it to them below its par value (when the law permits). In this case the railroad receives some return for its offering, but its capitalization increases in a greater degree than its assets. Overcapitalization is the result, unless indeed the company was undercapitalized prior to this new bit of financing. It is important to note this qualification. Stock dividends and sales of stock below par increase a company's capitalization without a corresponding increase in its assets, yet they do not necessarily lead to overcapitalization. If we take as the proper basis of capitalization the actual contribution of the investors, stock dividends and sales of stock below par inevitably lead to overcapitalization, for the stock is not paid for at its face value, if indeed it is paid for at all. If, however, we take as the proper basis of capitalization the investment *in* the property, overcapitalization need not result. To make the matter concrete, suppose a railroad is capitalized for $100,000,000, all of which represents a cash investment. Suppose for a period of five years it annually puts back into the business $2,000,000 of its profits. At the end of five years the investment in the property equals $110,000,000. If now the railroad declares a stock dividend of 10 per cent (we assume that the capitalization consists entirely of stock), the capitalization stands at $110,000,000, which exactly equals the investment in the property. In this case there has been no overcapitalization. If, however, the stock dividend were 20 per cent, instead of 10, there would be over-

[1] The owner of one share would receive $1/10$ of a new share, which he could dispose of in the market.

capitalization. A stock dividend of 20 per cent would increase the capitalization to $120,000,000, and this would be $10,000,000 in excess of the investment in the property.

(4) Overcapitalization has often arisen in connection with combination. The combination of certain roads into the Missouri, Kansas and Texas Railroad in 1891 added $12,475,000 to the capitalization. This was equal to $19,207 per mile of line combined, or approximately one-third of the cost of constructing a new line. In 1898 the New York Central Railroad acquired the Lake Shore and Michigan Southern Railway by an exchange of bonds for stock, the New York Central giving $2 in bonds for $1 in stock. Similar illustrations might be multiplied indefinitely. In these cases it is not always possible to be sure whether overcapitalization has in fact resulted. This is because there does not take place an exchange of stock or bonds for cash, but an exchange of stock or bonds for other stock (and possibly bonds). In the case of the Missouri, Kansas and Texas, if the individual roads that were combined were not undercapitalized before, the act of combination resulted in overcapitalization, because the capitalization increased without a corresponding investment. But how about the acquisition of the Lake Shore by the New York Central? The latter, to be sure, put out $2 in bonds for every $1 of stock acquired, yet the Lake Shore may have been undercapitalized. If so, the enlarged capitalization of the New York Central may have been entirely proper, even on the investment basis.

(5) Overcapitalization has usually taken place in a financial reorganization, whether undergone in consequence of failure or as a means of warding off a threatened failure. The explanation of this phenomenon is that the purpose of the reorganization is usually to reduce the claims upon the railroad in the form of fixed charges. This means that the owners of the bonds must be induced to exchange their bonds for new ones bearing lower interest rates, or to exchange them for securities which do not constitute a fixed charge on the earnings, as, for example, preferred stocks. Yet how can the bondholders be induced to take these inferior securities, in view of the right they enjoy of foreclosing on their mortgage? One way is to give them a larger volume of the more speculative securities, such as preferred and common stocks. The fundamental protection behind their bonds is after all earning power, and the acceptance of stocks, which con-

stitute a claim on the surplus earnings of the future, may enable them to recoup themselves for the reduction in income temporarily sustained. So far as the railroad is concerned, its financial position is improved by a larger capitalization, provided the volume of bonds is reduced. It is not the aggregate of capitalization that leads to failure, but the existence of that capitalization in a form which involves a regular drain on the earnings to meet fixed charges. Though the situation of the railroad may be improved by the act of reorganization, overcapitalization results none the less.

We stated earlier that the regulation of security issues was necessary to prevent overcapitalization. Having illustrated the occasions on which overcapitalization arises, we may now explain (more specifically) why the practice is sufficiently injurious to warrant the adoption of a policy of regulation.

Regulation is necessary, first, to protect the public, and, second, to protect the investors in railway securities.

The protection of the public has two-fold aspects: (1) protection against unreasonable rates; and (2) protection against inadequate service. Each deserves separate consideration.

(1) Whether the amount of a railroad's capitalization has any effect upon the rates charged by it is the subject of bitter controversy. In briefly reviewing this controversy we may fairly assume that railway rates are subject to regulation by the commissions, especially the Interstate Commerce Commission. This has long been the case, and bids fair to continue so; and the question is, therefore, whether it is necessary to exercise control over security issues in order to administer the provisions of the law requiring rates to be reasonable.

One argument is that particular railway rates are determined by competitive and commercial conditions; and that there is therefore little or no relation between capitalization and rates. The Erie Railroad, for example, is heavily overcapitalized, yet it can not charge higher rates than the roads with which it comes into competition, as, for instance, the New York Central. As regards rates in general, these, like individual rates, are under the jurisdiction of the Interstate Commerce Commission; and it is the duty of the Commission, subject to the review of the courts, to enforce reasonable charges. The test of reasonable charges is whether the rates yield the railroad a fair return on the fair value

of its property, and if the reasonableness of rates is based on a valuation of the property, it makes no difference, it is argued, what the capitalization is. Therefore, regulation of securities is held to be unnecessary so far as rates are concerned.

In reply, it may be granted that particular rates are determined in large measure by competitive and commercial conditions; and that the Erie Railroad can not charge higher rates than the New York Central on competitive business. Nevertheless, every railroad has some local, noncompetitive traffic. With regard to this traffic the overcapitalized road may elect to follow the monopolistic practice of charging what the traffic will bear, in order to pay dividends on watered stock. The opponent of regulation of securities meets this contention with the assertion that such an extortionate policy will in the long run react against the overcapitalized road by checking the development of the regions served by it; and that if this consideration does not suffice to restrain the oppressor the Interstate Commerce Commission has power to intervene on behalf of the oppressed.

Coming to the argument that rates are based upon the valuation of the property, and not upon the capitalization, the advocate of regulation of securities makes two answers. One is that the Supreme Court specifically enumerated "the amount and market value of its bonds and stock" as elements to be considered in determining the fair value of a railroad's property; and therefore the volume of capitalization is of importance. The second answer is that even though the commissions and courts allege that only slight importance should be attached to the capitalization in determining reasonable rates, in fact they are greatly influenced by it. Support for this view is supplied by the testimony of the commissioners themselves, who are in the best position to know what factors influence their decision. As Commissioner Clements, of the Interstate Commerce Commission, remarked in 1912: "It is often said that capitalization has nothing to do with the question of reasonable rates. Perhaps legally and technically speaking that is true, but as a matter of fact it is *never left out of view.*" [1] Commissioner Clements went on to say that in cases in which rates were involved the first thing that was done by the astute railroad attorneys was to place before the court the capitalization, the

[2] *Proceedings of National Association of Railway Commissioners*, 1912, p. 219. Italics supplied by the author.

bonds, and the fixed charges, and to show how little of the earnings was left for the stockholders after meeting all the expenses of the business. If the attorneys for the commission argued that the stock did not represent actual investment, the railroad attorneys replied that the stock was issued in accordance with the law, and that it is now in the hands of innocent purchasers, widows and orphans and the like. Are the people, they ask, going to repudiate their obligations, and cause innocent investors to suffer? We may theorize, said the Commissioner, as much as we please about capitalization having nothing to do with rates, but the capitalization will confront the courts every time a schedule of rates is challenged, and the courts will look at it, and be influenced by it. Moreover, the influence of public opinion must be borne in mind. Any one who observed the widespread demand during 1921 for a reduction in railway rates, followed as it was in 1922 by an order of the Interstate Commerce Commission reducing rates and the fair rate of return, will likely concede that to a certain extent rates become what the people demand that they shall become. If the people believe that profits are excessive, they will demand that rates be reduced. If, however, the railroads are overcapitalized and their dividend rates are low, the people are not so likely to become excited, especially if the stock watering is a matter of ancient history. Because of these considerations, then, we believe that there is a real connection between capitalization and rates; and that the regulation of securities is necessary to the effective exercise by the Interstate Commerce Commission of its rate making powers.

(2) Regulation of securities is also necessary to protect the public against inadequate service. The stockholders naturally clamor for dividends, even on watered stocks, and the railway management naturally does its best to meet their wishes in this regard. To this end the management will raise rates if it can, but it is restrained in this direction by the competition of other carriers, by the necessity of encouraging the development of its territory, and by the difficulty of securing the approval of the regulating commissions for rate increases, especially for the purpose of paying dividends on watered stock. These restraints on higher rates are not entirely effective, as we have seen, yet they are present none the less. The line of least resistance, therefore, is the reduction of operating expenses, and especially expenses for maintenance of

way and equipment. An overcapitalized road, merely because it is overcapitalized, can not buy its materials and supplies any cheaper, nor can it get its labor at reduced wages. It must skimp, therefore, where it can, and this means principally on maintenance, especially on maintenance of way. A road in an overcapitalized condition is less likely also to make those additions and betterments which are necessary to meet the requirements of expanding trade and commerce, largely because its ill-balanced financial structure makes difficult the raising of the necessary funds. The history of most railroad failures illustrates the truth of these remarks. Unable to raise funds for improvements except at well-nigh prohibitive figures, railroads with weak credit fail to keep pace with the needs of an expanding population, and even let the existing property deteriorate through inadequate maintenance charges. Finally receivership comes, and as a result of drastic reorganization the road may be put back upon its feet again. Yet receivership usually entails hardships on the investors and on the general public. The injurious effect of overcapitalization on service is conceded even by the railway officials, most of whom now favor the regulation of railway securities.

Regulation is necessary, second, to protect the investors in railway securities, whether stockholders or bondholders. We may give this subject concreteness by referring briefly to the financial transactions by which the New York, New Haven and Hartford Railroad was transformed within a few years from a property enjoying the highest investment status into a financial wreck. The episode derives significance, moreover, from the fact that the person directly responsible for the downfall of the New Haven was the late Mr. J. P. Morgan, then head of the great investment firm of J. P. Morgan and Company, and generally conceded to be the country's leading financier. The facts are based upon the researches of the Interstate Commerce Commission.[1] Though the Commission referred to the episode as constituting "one of the most glaring instances of maladministration revealed in all the history of American railroading," [2] nevertheless it does not stand alone. On the contrary, it merely illustrates the experience of a number of other roads during the last generation, among which

[1] 27 I. C. C. Reports 560–617 (1913), and 31 I. C. C. Reports 32–132 (1914).

[2] 31 I. C. C. Reports 33.

may be mentioned the Chicago and Alton,[1] the St. Louis and San Francisco,[2] the Chicago, Rock Island and Pacific,[3] the Pere Marquette,[4] and the Cincinnati, Hamilton and Dayton.[5]

For many years prior to the transactions to be described the stock of the New Haven had been regarded as an investment of the highest grade. The stock paid dividends of 8 per cent annually; and it sold regularly above $125 per share, in some years even above $200 per share. It was held by estates, insurance companies, widows and orphans, in sum, by persons wishing an investment which could be counted upon to supply them a certain, regular income to meet their current expenses. Many of the stockholders of the New Haven had no other source of income, so confident were they that the road would not fail them. Yet in June, 1913, the dividends were reduced from 2 per cent quarterly to 1½ per cent quarterly, and in December, 1913, they were passed entirely. No dividends have been paid since 1913, and none will be paid in the near future, so far as one can foresee. Words are lacking to portray adequately the suffering and hardship that this disaster entailed, but it is possible to describe in simple language the underlying causes.

The fundamental explanation of the disaster was the determination of Mr. Morgan to establish a monopoly of the transportation system of New England under the control of the New Haven Railroad. The attempt was made in violation of the Sherman Anti-trust Act, which forbids combinations in restraint of trade, and monopolies. This was not the cause of the downfall, however, for many concerns have ignored the provisions of this law, and temporarily profited handsomely thereby. The real cause of disaster was that the attempted monopoly was conducted in violation of sound principles of finance; properties were acquired at prices that bore little or no relation to their value to the railroad upon which they were foisted. For example, the New Haven paid the enormous sum of $36,434,173 for the New York, Westchester and Boston Railway, a line of only 18 miles. This line was not necessary as a part of the New Haven system; it merely paralleled lines already owned by the New Haven. Upon this large and un-

[1] 12 I. C. C. Reports 295–304 (1907).
[2] 29 I. C. C. Reports 139–211 (1914).
[3] 36 I. C. C. Reports 43–61 (1915).
[4] 44 I. C. C. Reports 1–263 (1917).
[5] Ibid.

necessary outlay the New Haven sustained an annual loss of approximately $1,250,000. At one stage of these financial transactions Mr. C. S. Mellen, the president of the New Haven, took it upon himself to obtain a little more light on the whole affair. A report providing for certain expenditures having been approved by the directors of the New Haven, President Mellen called upon Mr. Morgan, and asked for more information as to these expenditures. We quote from the investigation of the Interstate Commerce Commission: "According to Mr. Mellen's evidence, Mr. Morgan asked him if he knew who wrote the report, and upon Mr. Mellen's reply, 'Yes, Mr. Stetson wrote it,' Mr. Morgan asked him, 'Do you think you know more than Stetson?' Mr. Mellen admitted he did not, and apparently acquiesced, but took the precaution to write upon the back of his report, while still smarting under the humiliation of the interview with Mr. Morgan, the following words: 'The trouble with this is there is nothing to show who got the money for the truck turned over.'"[1] The whole transaction was thus not only ill-advised, but in the opinion of President Mellen and the Interstate Commerce Commission crooked as well.

As part of its campaign to monopolize the transportation system of New England, the New Haven expended $24,352,336 in money and securities to acquire certain trolleys in Rhode Island. These properties were operated at an average annual loss of approximately $648,680, and were acquired, so the evidence shows, with full knowledge that a large deficit would result. The New Haven also spent the sum of $24,772,416 in the acquisition of certain competing steamship lines—lines which had a physical valuation of approximately $10,000,000. One of the companies—the Merchants and Miners Transportation Company—cost the New Haven $5,774,500, and was subsequently disposed of at a loss of $3,594,500. The New Haven also acquired control of the Boston and Maine Railroad, an important road serving Northern New England. At the time of the acquisition the Boston and Maine was a profitable enterprise. It had paid substantial dividends for more than fifty years, and its credit was then high and its prospects excellent. Within half a decade after coming under the control of men who were supposed to be good financiers, it entered the downward path, and at the time the Interstate Commerce Commission

[1] 31 I. C. C. Reports 37. We have not quoted Mr. Mellen in full; he made further comments along the same line.

made its report the stock was selling at $40 per share. The market depreciation of the common stock of the Boston and Maine held by the New Haven amounted to $20,475,025. This does not include a further loss of $2,748,700 in the so-called Billard transaction. The aforementioned acquisition by the New Haven of Boston and Maine stock was declared illegal by the Supreme Court of Massachusetts. Thereupon the New Haven had the stock nominally transferred to Mr. John L. Billard. This individual was not a man of great wealth apparently; he paid taxes on property listed at only $30,000. Mr. Billard bought 109,948 shares of the stock of the Boston and Maine at $125 per share, the purchase price amounting to $13,743,500. He borrowed $11,000,000 from the banks on the stock as collateral, and gave his unsecured note for the balance to a subsidiary of the New Haven. Subsequently, after the New Haven had secured the necessary Massachusetts legislation, Mr. Billard resold these shares to the subsidiary of the New Haven for $150 per share. Without the investment of a dollar he was allowed by the New Haven a profit of $2,748,700 for his connivance in a fraud on the state. The New Haven was guilty of wasteful expenditures in numerous other directions, for example, in secret contributions to the campaign funds of both the leading parties and in the "education" of public opinion. Yet why prolong the sorry record? It must suffice, in conclusion, to say that the Interstate Commerce Commission estimated the losses to the New Haven by reason of waste and mismanagement to aggregate between $60,000,000 and $90,000,000. The splendid property of the New Haven itself will be called upon for many a year, it said, to make up the drain upon its resources resulting from the unpardonable folly of the transactions outside the proper field in which stockholders supposed their money was invested. The Commission expressed the conviction that honest and efficient management of the property as a railroad only would in time restore the former standing. However, ten years have elapsed since this optimistic view was expressed, and the New Haven is still paying the price of its folly.

The opponent of the regulation of securities argues that it is not the function of the government to protect investors. He takes his stand on the old doctrine of "caveat emptor," let the buyer beware. His argument is that investors in railway securities, like investors in mining securities, should take their chances, and

that the government should confine its activities to the prevention of fraud. In our opinion this attitude is opposed to sound public policy. By the pronouncements of the Supreme Court the railways are entitled to a fair return on the fair value of their property. What is a fair rate of return depends, as we explained in the preceding chapter, on the degree of risk involved. If the risk is great, the rate of return, and therefore the rates, must be correspondingly high. If the investors in railway securities are to continue in the future as in the past subject to the raids of financial buccaneers, railway securities will appeal mainly to the speculative element, who will demand a high return for the use of their funds. It is on behalf of the traveling and consuming public, then, that we advocate the regulation of securities. The investors as such may deserve protection, yet whether they do or not they must be protected in order that the people can get transportation on reasonable terms. The Railroad Securities Commission recommended publicity of stock and bond issues rather than their control, yet publicity alone will not suffice. What is needed is positive control, and this is the view now embodied in the statute.

Necessity of Federal Regulation

Not only is regulation of securities necessary, but this regulation must be intrusted to the federal government. Prior to the passage of the Esch-Cummins Act of 1920, which gave the Interstate Commerce Commission power to regulate security issues, approximately one-half of the states had laws providing for the regulation of the securities of railroads and other public utilities. These laws did a great deal of good, and especially so as regards the local public utilities, the regulation of which will always remain outside the jurisdiction of the federal government. As applied to the railways, however, the state legislation was quite ineffective. This was true, partly because many of the states had no laws dealing with securities, and partly because of the limited jurisdiction of the states that did have such laws. This point is well illustrated by the experience of the New Haven Railroad. Most of the property of this railroad is located in the states of Massachusetts and Connecticut, and the railroad had charters from both states. The state of Massachusetts had long regulated railway security issues. Its legislation made the approval of the

railroad commission a prerequisite to the issuance of securities, and it specified the purposes for which the proceeds could be employed. The state of Connecticut, however, imposed no such restrictions upon the freedom of action of corporations chartered by it. The New Haven therefore carried out its financial manœuvres under its Connecticut charter. During the ten years after June 30, 1903, the New Haven increased its capitalization from $93,000,000 to $417,000,000, a total of $324,000,000.[1] Of this sum $204,000,000 was expended on outside operations, with the disastrous results already described, the excellent laws of the state of Massachusetts to the contrary notwithstanding.

Regulation, to be effective, therefore, must be complete and uniform. It is not likely to be complete, however, unless it is national, as is indicated in the fact that the state of Delaware even as late as 1922 had no commission with power to regulate railway rates, let alone securities and service. And even should regulation of securities become complete in the sense of being provided for by every state, it is not likely to be uniform. State regulation of securities is well-nigh certain to be characterized by diversity of both legislation and practice, and therefore to be confusing and ineffective. State regulation, moreover, is likely to be dictated in part by local considerations rather than national. For example, some states in giving their approval to the issuance of securities specify that a portion of the proceeds shall be expended within the state. The logic of the situation thus clearly demands that regulation of the securities of railways engaged in interstate commerce be confided exclusively to the federal government. We say exclusively, because to make the authority of the states concurrent with that of the national government would merely intensify the conflict between state and federal authority, which has proved so embarrassing in the regulation of railway rates. Justice is done the states, we believe, if they are given full opportunity to appear before the federal commission in all matters that affect their particular interests.

The point of view above expressed is in line with our national legislation on this subject, though Congress was needlessly dilatory in taking the necessary steps. As early as 1910 there was a considerable demand that the authority of the Interstate Commerce Commission be extended to cover security issues, a de-

[1] 31 I. C. C. Reports 33.

mand that had the backing of President Taft. The Mann-Elkins Act of 1910, however, contained no such provision, and the best that the Administration could do was to secure a clause authorizing the appointment of a commission to investigate the subject. This commission, known as the Railroad Securities Commission, reported adversely in 1911, yet public sentiment was strongly in favor of such legislation. A bill conferring the necessary authority on the Interstate Commerce Commission was passed by the House in 1914, and would undoubtedly have passed the Senate had it not been for the outbreak of the war in Europe. It was not until the passage of the Esch-Cummins Act in 1920, therefore, that the step was finally taken as a phase of the attempted peace-time solution of the railway problem. The provisions of this act, however, will be described in a separate chapter.

REFERENCES

Barron, M. L.: "State Regulation of the Securities of Railroads and Public Service Companies," *Annals of the American Academy of Political and Social Science*, vol. 76, pp. 167–190 (March, 1918).

Bonbright, J. C.: *Railroad Capitalization*, chs. 1–5 (1920).

Dewsnup, E. R.: "Recent Financial Investigations by the Interstate Commerce Commission," *Annals of the American Academy of Political and Social Science*, vol. 63, pp. 199–213 (January, 1916).

Dunn, S. O.: *Regulation of Railways*, ch. 8 (1918).

Heilman, R. E.: "The Development by Commissions of the Principles of Public Utility Capitalization," *Journal of Political Economy*, vol. 23, pp. 888–909 (November, 1915).

Interstate Commerce Commission Reports, vol. 31, pp. 32–70 (July 11, 1914); vol. 44, pp. 217–223 (March 13, 1917).

Johnson, E. R. and Van Metre, T. W.: *Principles of Railroad Transportation*, pp. 113–129 (1921).

Railroad Securities Commission, Report of. House Document no. 256, 62nd Cong., 2nd Sess. (1911).

Ripley, W. Z.: *Railroads: Finance and Organization*, chs. 7–9 (1915).

Thelen, Max: "Desirable Scope and Method of Federal Regulation of Railroad Securities," *Annals of the American Academy of Political and Social Science*, vol. 76, pp. 191–201 (March, 1918).

CHAPTER XVII

COMBINATION

Brief History of Railroad Combination

The history of railroad combination in the United States may be divided into three periods. The beginning of the first period may be put at 1853, in which year the New York Central Railroad was formed by the combination of a number of end-to-end lines connecting Albany and Buffalo, New York. Prior to this date most railroads were merely short, disconnected, local lines. Exceptions there were, to be sure, such as the formation some fifteen years earlier of a through route from Philadelphia to Baltimore by means of a combination of three local lines. Notwithstanding a few such exceptions it is correct to say that the New York Central combination ushered in a new period, the characteristic feature of which was the union of short local lines to form through routes between the larger cities and trade centers. There was much opposition to this movement, especially on the part of those who wished to be protected from the competition of other producing sections. Indeed different track gauges were widely advocated (and for a long time maintained) as a means of checking the development of through traffic, and thus of sheltering local interests from outside competition. The opposition to combination of connecting lines was ill-advised, however, and did not endure. Shippers and passengers found it inconvenient to make transfers at every junction point, and the consumers came to see that the cost of unnecessary handling of goods was reflected in freight rates, and thus in prices. Accordingly the example set by the New York Central was followed by numerous other railroads in the twenty years that followed. By 1873 there were 69 such combinations with a line in excess of 200 miles. The average length of these 69 combinations was only 389 miles, and the length of the longest—the Erie—was only 959 miles.[1] Some of the companies acquired

[1] These figures do not include the Union Pacific and Central Pacific Railroads, approximately 1000 miles in length, which were not end-to-end combinations.

or built branches also, yet the main force behind the movement was a desire to link up the leading centers of production and distribution. This movement was obviously in the public interest.

The characteristic feature of the second period, which extends roughly from 1873 to 1893, was the transformation of short through lines into railroad systems of considerable magnitude. We have begun this period with the year 1873, because that date constitutes the end of the first period. As a matter of fact, however, it was not until the late seventies that industry recovered from the unusually severe panic of 1873, and that railroad combination went forward once more. But with the return of prosperity the development of great systems, by a process of extension and combination, proceeded rapidly. Whereas in 1873 there were only three railroads exceeding 900 miles in length, in 1893 there were 35 exceeding 1000 miles, and five exceeding 5000 miles. The creation of these large systems, with their numerous branches and feeders, was due to many factors, among which may be mentioned (1) the widespread demand for cheaper, better, and speedier service, a demand that could be best met, it was thought, by the creation of more far-reaching organizations; and (2) the natural inclination of the railway executives to extend the reach of their power. The necessity of developing an organization and system adapted to the new conditions of competition also played its part. The formation of end-to-end combinations during the first period had resulted in the establishment of more or less parallel through routes, and thus had led to active competition among the lines serving the same general territory. This point can be illustrated by the experience of the New York Central Railroad and the Pennsylvania Railroad. The New York Central, as we have seen, combined the lines from Buffalo to Albany in 1853. In 1869 it combined with the Hudson River Railroad, which brought it to New York City. In the same year Commodore Vanderbilt, who controlled the New York Central, united a number of lines from Buffalo to Chicago in the Lake Shore and Michigan Southern; and this brought the lines from New York City to Chicago under a common (individual) control. In 1869, also, the Pennsylvania Railroad by a process of extension and combination established a through line from Philadelphia to Chicago. These two lines at once came into active competition; and the competition became even more intense when the Baltimore and Ohio reached Chicago in 1874. It was such competition that gave rise

to rate wars and rate discriminations, as explained in an earlier chapter. As a means of meeting such competitive situations a number of railroads during the seventies and eighties constructed or acquired other lines, including branches and connections. They hoped by creating in this way a more closely knit and elaborate organization to place themselves in a position to meet the new competition.

During this second period there was some combination of parallel and competing roads, such as the acquisition of the New York, Chicago and St. Louis (Nickel Plate) by the Lake Shore and Michigan Southern in 1883, and of the West Shore by the New York Central and Hudson River Railroad in 1885. The Nickel Plate and West Shore were built parallel to the Lake Shore and the New York Central to force these roads to buy them out, and in this move they were successful. Yet in the main the railroads endeavored to restrain competition, not through combination, but through rate agreements, pools, and traffic associations. It was only as these devices became ineffective, especially after the decisions of the Supreme Court in the traffic association cases, that the combination of parallel and competing lines was widely resorted to.

The third period begins about 1893. Here again there is an interval between the ending of one period of combination and the beginning of another. The panic of 1893, like the panic of 1873, was followed by a severe and prolonged industrial depression, during which conditions were unfavorable for combination. A period of depression, by reducing profits, creates an atmosphere favorable for combination, yet it usually takes a period of prosperity to bring forth the requisite funds. With the return of prosperity in the late nineties, then, there took place a far-reaching movement toward railroad combination—a combination this time primarily of competing systems. The purpose of the combinations formed during the second period (1873–1893) had usually been to strengthen the stragetic position of the principal road by the longitudinal extension of its lines and by the acquisition of lateral branches. By this means the volume of traffic had been increased, expenses reduced, and rates lowered. In the case of the combinations of the third period, however, though much was said about the economies of combination, the principal purpose was the restraint of competition. Rate agreements, pools, and traffic associations for the purpose of fixing and maintaining rates having

been declared illegal, combination of competing lines was employed instead. It is principally this recent combination movement that we propose to consider in this chapter. Our purpose is to explain the leading types of combination, to describe a few outstanding combinations, and to indicate their legal status.

Before doing so, it may be suggested that a fourth period in railway combination will perhaps be ushered in by the Esch-Cummins Act of 1920, which authorizes the formation of railway combinations with the approval of the Interstate Commerce Commission. A discussion of these recent developments will be postponed, however, until we have described (in a later chapter) the provisions of the Esch-Cummins Act.

Leading Types of Combination

In practice the methods of effecting combination are numerous. Our discussion, however, will be limited to the following leading types: (1) consolidation or merger; (2) lease; (3) stock ownership.

(1) Consolidation or merger may be defined as the union in one corporate body of two or more existing corporations.[1] In effecting a consolidation the property and business of one or more companies are turned over to the consolidated company, whether this be a newly created corporation or one already existing. By the act of consolidation the separate companies lose their identity; their businesses are completely fused.

The New York Central system supplies a good illustration of the use of consolidation (or merger) as a means of forming a combination. The New York Central came into being in 1853 as the result of the consolidation in one company of a number of railroads forming connecting links between Buffalo and Albany. In 1869 it consolidated with the Hudson River Railroad, running from Albany south to New York City, to form the New York Central and Hudson River Railroad. In 1898 the New York Central and Hudson River Railroad acquired control through stock ownership of the Lake Shore and Michigan Southern Railway (a union of lines connecting Buffalo and Chicago), and in 1914 these two companies consolidated to form the New York Central Railroad. As the result of the consolidation the Lake Shore and Michigan Southern became extinct.

The advantage of the consolidation as a form of combination is

[1] Cf. the author's *The Trust Problem in the United States*, p. 32.

that it constitutes a unified operating unit with a resulting concentration of power and responsibility. Under this type of organization it is possible to dispense with a number of separate companies, each having its own officials and organization, and to substitute therefor a single concern dominated by singleness of purpose. Such a concern, being relieved from all the entanglements, legal and other, that result from the maintenance of subsidiary companies, each with its own bonds and stocks, is freer to carry on financial operations of large magnitude.

The consolidation has several disadvantages. In the first place, it may be difficult to bring about. A consolidation is not valid unless authorized by legislative authority, and when the railroads to be consolidated are creatures of different states the approval of each separate state is necessary to make the consolidation valid.[1] Legislative approval of consolidation may be given in various ways. The legislature may provide for consolidation under a general corporation law, or it may grant a particular railroad a charter permitting consolidation under certain conditions. Yet even if the legislature has given its assent, no corporation can consolidate with another without the consent of its stockholders. If the charter of a railroad gives it authority to consolidate, or if any general law in force at the time when the railroad was chartered permits it, the consent of only a majority of the shareholders is required; otherwise the consent of all the shareholders is necessary.[2] The consent of all the stockholders, when necessary, may be impossible to obtain, in which event consolidation is out of the question. In the second place, consolidation involves the relinquishment of what may be valuable, because liberal, charters, granted in a period when legislatures were not so careful as at present to safeguard the public welfare. Thirdly, the act of consolidation is irrevocable. If a railroad merely acquires the stock of another company, it can dispose of the stock if it subsequently seems desirable to terminate the relationship. Not so with a consolidation. Once an egg is broken in twain, all the King's horses and all the King's men can not put it together again. And once two companies have been completely fused, they can not again be

[1] We have in mind here the situation prior to the passage of the Esch-Cummins Act of 1920. See p. 555.

[2] See the author's *The Trust Problem in the United States*, p. 33.

split asunder. The reason is that their separate existence has been terminated once and for all by the act of consolidation.

(2) Combination may come about, second, through lease—an arrangement whereby one company transfers the use of its physical property to another for a term of years, or possibly in perpetuity. The company which temporarily (or permanently) gives up its property is known as the lessor; and the company which takes over the property is known as the lessee. A lease, unlike a consolidation, does not involve the extinguishment of any of the combining companies; the lessor, though it has parted with its property, maintains its corporate existence. If the lease has a limited life, the preservation of the organization is clearly necessary; for upon the expiration of the lease the lessor company must either take back the property or make some arrangement for its use. Yet even if the lease runs in perpetuity, the corporate existence of the lessor must be maintained in order to keep alive the franchise, and in order to distribute to the stockholders the rental received under the lease. The rental, it may be observed, is either fixed or contingent. If fixed, the rental is a stipulated amount; if contingent, it depends upon some variable, such as gross earnings, net earnings, or the volume of traffic interchanged with the lessee.

The New York Central combination illustrates the lease as well as the consolidation, thus going to show that a big combination may be built up by the use of numerous devices. The West Shore Railroad had been built parallel to the New York Central and Hudson River Railroad for the express purpose of forcing the latter to purchase the new line as a means of avoiding a competition that was likely to prove ruinous to both parties. This sandbagging scheme was successful, and the competition was removed through the lease of the West Shore by the New York Central for a term of 475 years. Subsequently, in 1900, the New York Central extended its system into New England, through a long-time lease of the Boston and Albany, which connected the cities of Albany and Boston. It was through a lease also that the Pennsylvania Railroad effected its entrance into Chicago; in 1869 it leased the Pittsburg, Fort Wayne and Chicago, connecting the cities comprising its title. In the same way the Pennsylvania extended its lines to St. Louis, and eastward from Philadelphia to New York Harbor.

One advantage of the lease as a means of combination is that the benefits of unified operation can be secured without resort to new financing. The consideration in a lease is not cash or securities, but an agreement to pay periodically a fixed (or variable) sum. This arrangement is advantageous to the public as well as to the lessee, since the overcapitalization that usually accompanies combination is thereby avoided. Another advantage possibly is the fact that a combination by lease is a more flexible arrangement than a consolidation, especially when the lease runs for a short term and bears a contingent rental. With a short term lease it is possible to modify the provisions from time to time. In practice, however, this advantage is unimportant, because most leases do not run for short periods. What the lessee usually wants is assured control, and this a short term lease does not give. Accordingly most leases run for fifty to one hundred years, and some run forever.

A disadvantage of the lease is that it increases the fixed charges. If the lessor has been guaranteed a fixed rental, this sum must be paid if the combination is to be held intact. This objection may not be valid, if the rental is contingent upon earnings; for then the fixed charges (if we may call them such) vary with the earnings. Nevertheless experience has shown that leases with contingent rentals give rise to controversies between the parties, and as a result these leases are gradually being abandoned in favor of those having fixed rentals. Neither does the fact that the rentals must be paid regularly constitute an objection, if the earnings of the leased line are adequate to pay the rentals. Yet the rentals have frequently been excessive, in order to make the proposition attractive to the lessor; and there is always the danger that in periods of depression the earnings will fall below the guaranteed rental. In this event, the burden on the lessee may be greater than it can bear, and insolvency may ensue. Moreover, in the receivership and resulting reorganization the lease may be cancelled, and the combination go to pieces.

The lease has also the disadvantage, closely associated with the foregoing, that both its continuance and its cancellation may at one time or another be against the wishes of the lessee. If the rentals regularly exceed the earnings, the lessee may wish to be relieved of its contract, yet it may find it impossible to secure relief except through receivership proceedings. And such

a shock to its credit is to be avoided, if possible. If, however, the earnings exceed the rentals, so that cancellation would be unwelcome, the union is not close enough. There is always the possibility that through breach of contract, receivership, or termination of the lease, the property may be returned to the lessor, and in this case its surplus earnings would no longer accrue to the lessee. As a result it is customary for the lessee to reinforce the lease by the ownership of part, and perhaps all, of the stock of the lessor. When this is the case, especially if all the stock is held, the lessor corporation may become quite inactive, its existence being maintained solely for the purpose of keeping alive its franchise. Moreover, under these conditions the terms of the lease become unimportant. Obviously if the lessee holds all the stock of the lessor corporation it is immaterial to both whether the rental be large or small; in any event all the profits go eventually into the pockets of the stockholders of the lessee corporation.

(3) A third method of effecting combination, and the method most commonly employed, is through stock ownership. Unlike consolidation (or merger) stock ownership does not involve the dissolution of any of the companies that are consolidated, and unlike lease it does not reduce either of the combining companies to a state of comparative inactivity. The railroad whose stock is acquired maintains as before its separate existence, its separate officers and management, and nominally its independence. Yet the railroad that has acquired the stock, assuming that its holdings are sufficient to give control, can elect the directors, and can thus control the management of the property. For one railroad to control another it is not necessary to hold all the stock, though in practice all of the stock is frequently acquired in order to avoid the possibility of interference by an obstreperous minority. So far as control is concerned it suffices to hold a majority of the stock, and since this is much less expensive it is the arrangement usually employed. Not uncommonly, however, only a minority of the stock is acquired, for experience has shown that a concentrated minority may be quite ample for purposes of control. Almost always some of the stockholders will give their proxy (the right to vote their stock) to the management upon request, and almost invariably others will neglect to exercise their right to vote (either in person or by proxy). It may well be, therefore, that the ownership of thirty to forty per cent of the stock in one block will suffice,

and this is especially true when the minority ownership is supplemented by the holdings of individuals who can be counted upon to vote with the minority. For example, the Chicago, St. Paul, Minneapolis and Omaha Railroad, owned by the Vanderbilt interests, held in 1906 less than a majority of the stock of the Chicago and Northwestern Railroad, but controlled it none the less, because Mr. F. W. Vanderbilt held $1,500,000 of the stock of the Chicago and Northwestern, and this holding, combined with that of the Chicago, St. Paul, Minneapolis and Omaha, gave a majority.[1] If, however, it is desired to assure control permanently, nothing less than a majority will do.

The acquisition of stock may be financed in numerous ways. One way is for the parent company to exchange its own stock for the stock of the company to be acquired. This plan is advantageous in that no direct money outlay is required, but the necessity of making an offer that will be accepted may result in a considerable addition to the outstanding capital stock of the parent company. Another plan is for the parent company to buy the stock outright for cash from individual shareholders or on the stock exchange, possibly replenishing its treasury later from the proceeds of new stock or bond issues. This arrangement is unusual; railroads seldom have enough surplus cash for this purpose, unless possibly the road to be acquired is a relatively small one. A third plan—one very widely used during the combination movement of the early years of the twentieth century—is the exchange of bonds, especially collateral trust bonds, for stock. Collateral trust bonds, as already explained, are promises to pay, secured by the stocks or bonds of other companies. By this arrangement railroad A acquires the stock of railroad B by giving in exchange its collateral trust bonds, secured by the deposit of the stock received from the shareholders of B. The former shareholders of B, to the extent that they make the exchange, receive securities that are protected by the general credit of railroad A, and in addition by the deposit of the stock of railroad B. The New York Central combination supplies an excellent illustration of the use of this device. For many years the New York Central and Hudson River Railroad and the Lake Shore and Michigan Southern Railway had been operated in harmony by virtue of

[1] *Report of Interstate Commerce Commission on Intercorporate Relationships of Railways in the United States as of June 30, 1906*, p. 20.

their ownership by the same financial interests. In 1898, however, the New York Central and Hudson River decided to replace this relationship with a closer union. Accordingly it offered to give to the stockholders of the Lake Shore $2 in collateral trust bonds of the New York Central for $1 in stock of the Lake Shore. The bonds of the New York Central bore 3½ per cent, and the stock of the Lake Shore had paid 6 per cent for many years, accordingly the stockholders of the Lake Shore were offered a practically certain return of 7 per cent in place of the 6 per cent that they had been receiving. Though the Lake Shore was a very prosperous concern, the offer was accepted by most, though not all, of the shareholders. Subsequently (in 1914) the New York Central bought out the last remaining shareholder, and thereupon the two roads were consolidated, using this term in its technical sense.

The relationship between the railroad companies that are combined through stock ownership may assume many forms. A simple relationship is when the parent company holds in its own name the stock acquired. Thus the New York Central in 1906 held 90.6 per cent of the stock of the Lake Shore and Michigan Southern, and the Pennsylvania Company (owned by the Pennsylvania Railroad) held 37.7 per cent of the stock of the Baltimore and Ohio. The first case illustrates the combination of two connecting lines into one system; the second, the combination of two competitive systems. A less simple relationship is when the parent company exercises its control through an intermediary company. Thus the New York Central through the Lake Shore once held over half of the stock of the Cleveland, Cincinnati, Chicago and St. Louis (the Big Four), and over half of the stock of the New York, Chicago and St. Louis (the Nickel Plate). The Big Four and Nickel Plate, in turn, held the stocks of still other railroads, so that the influence of the New York Central ramified in many directions. A more involved relationship is often found when control is exercised through a holding company. Thus the Philadelphia and Reading Railway and the Central Railroad of New Jersey, competing anthracite coal carriers, were tied together in 1906 (and earlier) through the medium of the Reading Company. The latter was not a railroad at all, but merely a holding company which held all of the stock of the Philadelphia and Reading and 53 per cent of the stock of the Central of New Jersey, and by this

means prevented them from competing with each other.[1] Moreover, the Reading Company, in turn, was controlled by the Lake Shore and the Baltimore and Ohio, each of which held 21.7 per cent of its stock. These two roads, in turn, were controlled, as stated above, by the New York Central and Pennsylvania, respectively.

Another illustration may be given to show how involved corporate relationships may become. This illustration is in no sense extreme; on the contrary, it is simple in comparison with many that might be given. The Atlantic Coast Line Company, a holding company, held in 1906 slightly over half (50.3 per cent) of the stock of the Atlantic Coast Line Railroad Company. The latter held 51 per cent of the stock of the Louisville and Nashville Railroad, a much larger road. These two jointly leased the Georgia Railroad; and the Louisville and Nashville and the Southern jointly owned 88 per cent of the stock of the Chicago, Indianapolis and Louisville. The Atlantic Coast Line Company, the holding company, with a capital stock of $10,500,000 ($12,600,000 in 1907) controlled solely and jointly a railroad system capitalized at over $725,000,000. Though the relationships outlined above were relatively simple, there is probably no other case on record in which such a small amount of capital controlled such a large mileage of railroad.

The chief advantages of combination through stock ownership are: (1) the possibility of creating a centralized administration, and yet at the same time maintaining the individuality of the constituent companies; and (2) the relative ease with which it may be effected (in such a combination it is necessary to acquire only a majority of the stock of the separate companies).

On the other hand, there are serious objections. (1) The perpetuation of the separate concerns whose stock is acquired results in the creation of a complex business and financial structure, a set of wheels within wheels, that does not conduce to the maximum operating and financial efficiency; and (2) in case all the stock of the constituent concerns is not acquired, control of the business through the ownership of only a part of the stock separates control from ownership in large measure; and this is likely

[1] The Reading Company held the stock of numerous other concerns, including the Philadelphia and Reading Coal and Iron Company, the leading anthracite coal producer.

to give rise to the manipulation of accounts, and to the sacrifice of one set of stockholders in the interests of another, with resulting dissatisfaction and friction. Notwithstanding these disadvantages, most combinations have been effected through stock ownership.

Description of Particular Combinations

Having explained briefly the principal ways in which railroad combinations have been brought about, we may now illustrate by a description of a few outstanding combinations. We would like, if space were available, to describe fully all of the numerous combinations by means of which in the period after 1898 the greater part of the country was divided among a comparatively few railroad systems. To do so, however, would expand the limits of the book unduly. We propose, therefore, to make brief mention of the principal combinations formed throughout the country during this period, and to describe at somewhat greater length the Northern Securities and Union Pacific combinations. We have elected to describe these two combinations partly because they illustrate so vividly the nature of the combination movement, and partly because they gave rise to a series of important judicial decisions that established the status of railroad combinations under the Sherman Anti-trust Act.

Beginning with New England, the New York, New Haven and Hartford Railroad by a process of acquisition extending over a good many years secured a monopoly of the transportation system of New England that was more complete perhaps than in any other large section of the country.[1] The New Haven dominated not only the railroad situation, but by its acquisition of trolley lines and steamship lines the whole transportation situation. Its purchases of competing properties were made without regard to cost, and with financial results that were nothing less than disastrous.[2]

In trunk line territory two huge combinations were built up by the New York Central and Hudson River[3] and the Pennsylvania.

[1] On the New Haven, see 27 I. C. C. Reports 577–593, 606–617; 31 I. C. C Reports 32–70; and Ripley, W. Z., *Railroads: Finance and Organization*, pp. 462–473.

[2] Cf. ch. 16.

[3] On the New York Central, see Ripley, W. Z., *Railroads: Finance and Organization*, pp. 473–483 (map at p. 475); and Moody, John, *The Railroad Builders*, ch. 2 (map at p. 30).

Until 1898 the New York Central was a combination of a number of small roads connecting New York City and Buffalo. It was controlled by the Vanderbilt family, which also controlled the Lake Shore and Michigan Southern (extending from Buffalo to Chicago south of Lake Erie), as well as a number of other roads. In 1898 the New York Central embarked upon an ambitious program of combination. In that year it acquired a large majority of the stock of the Lake Shore, and thus incidentally secured control of the Nickel Plate, also extending from Buffalo to Chicago. Subsequently it acquired the Michigan Central, running from Buffalo to Chicago north of Lake Erie; the Cleveland, Cincinnati, Chicago and St. Louis (the Big Four), running to St. Louis; the Boston and Albany; and a number of other roads. Working relations were close, also, with the Chicago and Northwestern, which was controlled by the Vanderbilt family. Including the Chicago and Northwestern, which covered the territory north and west of Chicago and extended to the Rocky Mountains, the New York Central system embraced approximately 22,000 miles of line, or over one-tenth of the total mileage of the country.

The Pennsylvania Railroad [1] already extended from New York City to Chicago and St. Louis when the New York Central began its campaign of expansion, and therefore the Pennsylvania expended its energies primarily in the strengthening of its hold upon the territory already served by it. To be sure, it did acquire during and after 1900 a line to the Lakes at Buffalo, the Long Island Railroad (extending the length of Long Island), and other properties; and it also made very elaborate and expensive improvements in its terminal facilities at New York City. Yet the most significant feature of its policy after 1900 was its attempt, in coöperation with the New York Central, to eliminate the competition of a number of roads, principally anthracite and bituminous coal carriers, operating in trunk line territory. During 1900 to 1902 the Pennsylvania bought large blocks of stock in the Baltimore and Ohio, the Chesapeake and Ohio, and the Norfolk and Western,—all important bituminous coal-carrying roads. The percentages of their stock held on June 30, 1906, when the Interstate Commerce Commission made an investigation, were, respectively, 37.7 per cent,

[1] On the Pennsylvania, see Ripley, W. Z., *Railroads: Finance and Organization*, pp. 476–484 (map at p. 477); and Moody, John, *The Railroad Builders*, ch. 3 (map at p. 48).

about 25 per cent (the New York Central also held about 20 per cent), and 39 per cent.[1] During 1902, also, the Pennsylvania Railroad, through the Baltimore and Ohio, bought over 43 per cent of the stock of the Reading Company, a holding company dominating the anthracite coal trade; and half of this stock was sold to the Lake Shore and Michigan Southern, then a part of the New York Central system. By these and other devices there was established in trunk line territory a degree of harmony hitherto unknown.[2] Subsequently some of these securities were disposed of, yet serious competition was not resumed.

In the South—the region covered by the Southern Classification—the Morgan financial interests introduced harmony into a highly competitive situation. They acquired the Southern Railway (the leading railroad in the South), the Atlantic Coast Line, and the Louisville and Nashville. These railroads severally or jointly secured control of, or established satisfactory relations with, a number of other railroads, as well as the leading coastwise steamship lines. The result was that by 1900 the leading transportation agencies of this large area were thoroughly unified.[3]

In the West two of the principal combinations, outside the Northern Securities and Union Pacific combinations, were the Gould combination,[4] a line of some 19,000 miles extending from the Atlantic Coast to the Pacific (this system went to pieces after the panic of 1907); and the Rock Island combination, which was put together by a group of financial pirates, whose operations finally resulted in a receivership for the Chicago, Rock Island and Pacific Railway, formerly a very prosperous road.[5] Mention should also be made of two fairly independent systems of considerable importance: the Atchison, Topeka and Santa Fe, running from Chicago to Los Angeles and San Francisco through the South-

[1] *Report on Intercorporate Relationships*, p. 37.

[2] The methods by which an effective combination of the anthracite coal carriers was established after 1898 are described in the author's *The Anthracite Coal Combination in the United States*. See especially ch. 4. In this earlier work the term consolidation was not used in the precise sense in which it is used in this book.

[3] On the South, see Ripley, W. Z., *Railroads: Finance and Organization*, pp. 486–490 (map at p. 488); and Moody, John, *The Railroad Builders*, ch. 10 (map at p. 48).

[4] See Ripley, W. Z., *Railroads: Finance and Organization*, pp. 516–524 (map at p. 517).

[5] See 36 I. C. C. Reports 44–61; and Ripley, W. Z., *Railroads: Finance and Organization*, pp. 524–532 (map at p. 526).

west; [1] and the Chicago, Milwaukee and St. Paul, running from Chicago to Seattle through the Northwest.[2]

The Northern Securities Company [3] was organized late in 1901 to hold the stocks of the Great Northern and the Northern Pacific, parallel and competing lines in the Northwest. Each of these roads extended from St. Paul to Seattle, the Great Northern fairly close to the Canadian border, and the Northern Pacific somewhat to the south. Both roads were seriously handicapped in their competition for transcontinental traffic by the same cause—the lack of a Chicago terminal. As the relations between them were close, it was decided that they should coöperate in securing an entrance into Chicago. The endeavor was made to acquire the Chicago, Milwaukee and St. Paul, but the negotiations proved unsuccessful. Accordingly a decision was made to buy the Chicago, Burlington and Quincy, a splendid property of some 8,000 miles, connecting Chicago with St. Paul, Omaha, Kansas City, St. Louis, Denver, and numerous other important cities. Thereupon the Great Northern and Northern Pacific, early in 1901, offered to exchange $2 in joint and collateral trust bonds of these two systems for $1 in stock of the Chicago, Burlington and Quincy, the bonds to be secured by the guarantee of both systems and by the deposit with trustees of the Burlington stock. This offer was accepted by practically all of the stockholders of the Burlington.

This move met with determined opposition on the part of the Union Pacific, which extended from Omaha, Nebraska, to Ogden, Utah, connecting at Ogden with the Central Pacific Railroad, control over which the Union Pacific had recently acquired. The Union Pacific was not dependent on the Burlington for a Chicago entrance, but it realized that traffic which had formerly been brought to it by the Burlington would now be diverted, when possible, to the two northern competitors. The Union Pacific, therefore, asked that it be allowed to buy a half interest in the Burlington, but this request was refused. Accordingly Mr. Harriman, the head of the Union Pacific, set out to secure con-

[1] A map is in Ripley, p. 477; and Moody, p. 30.

[2] A map is in Ripley, p. 477.

[3] The best reference on the Northern Securities Company episode is Meyer, B. H., *A History of the Northern Securities Case*. A map is in Meyer, Appendix 10; Ripley, W. Z., *Railroads: Finance and Organization*, p. 493; and Moody, John, *The Railroad Builders*, pp. 30, 68.

trol of the Northern Pacific, and thus indirectly the half interest in the Burlington that he desired. The Hill-Morgan interests, who were dominant in the Great Northern and Northern Pacific, became alarmed, and proceeded to increase their holdings of Northern Pacific stock. Hitherto they had controlled the Northern Pacific despite the possession of only a minority interest, but with the Union Pacific bidding for control, a majority ownership was imperative. As a result of the competition for Northern Pacific stock its price steadily rose,—in fact it went as high as $1000 per share. When the smoke of the battle had cleared away, it was discovered early in May, 1901, that the Union Pacific interests held $78,000,000—$41,000,000 preferred and $37,000,000 common—of the $155,000,000 capital stock of the Northern Pacific. The Union Pacific therefore held a majority of the total stock, and upon the surface appeared to be the victor. The situation, however, was otherwise. Though the Hill-Morgan interests held a little less than half of the entire stock they held slightly over half of the $80,000,000 of common stock, and the common stock had the right under the by-laws of the Northern Pacific to retire the preferred stock on any January 1 prior to 1917. The month was then May, to be sure, and not January; but it seems probable that the board of directors then in office (Hill-Morgan directors, of course) could have postponed the annual meeting of stockholders for the election of directors until after January 1, 1902, which would have given the common stockholders an opportunity to retire the preferred stock before its owners had an opportunity to vote it. The matter was not put to a test, however, as an agreement was reached whereby the composition of the board of directors of the Northern Pacific was to be left to Mr. J. P. Morgan, who was to name a board representative of the common interests. To prevent the recurrence of controversy a company was organized to hold the stocks of the Northern Pacific and the Great Northern. This company was the Northern Securities Company.

The Northern Securities Company was organized in November, 1901, under the laws of New Jersey. It was capitalized at $400,000,000, a figure approximately equal to the market value of the stocks that it proposed to acquire. The Northern Securities Company offered to exchange $180 of its stock for each $100 of Great Northern stock, and $115 of its stock for each $100 of

Northern Pacific stock. This offer was accepted by 76 per cent of the stockholders of the Great Northern and by 96 per cent of the stockholders of the Northern Pacific, though the Union Pacific interests received a bonus for turning in their large holdings. The effect of this arrangement was to vest the control of the Great Northern and Northern Pacific (and indirectly the Burlington) in the hands of a mere holding company, and to substitute for two sets of stockholders with separate interests one set of stockholders with common interests. Such competition as there had been between these roads hitherto disappeared entirely.

Far-reaching as the Northern Securities combination was, it was eclipsed by the Union Pacific combination,[1] promoted by Mr. E. H. Harriman. In 1893 the Union Pacific owned or controlled 7,681 miles of railway. In that year it failed, and when it emerged from the receivership early in 1898 it was in a much weakened condition. Not only was the property in a dilapidated state, but most of its branches and feeders, together with the Pacific connection in the Northwest, had been lopped off, leaving the Union Pacific with only 1,849 miles of line. The first task of the railroad, under the leadership of Mr. Harriman, was to build up the property and to acquire the lost connections. The carrying out of this program was greatly facilitated by the return of national prosperity in 1898. As a result of the favorable conditions the Union Pacific by the latter part of 1900 had not only greatly improved its property, but had reacquired its former lines, the most important of which were the Oregon Short Line and the Oregon Railroad and Navigation Company, between them extending from a point east of Ogden on the Union Pacific to Portland, Oregon (on the Pacific Ocean). By 1900, indeed, the condition was so greatly improved that dividends were inaugurated on the common stock; and the company was ready to embark upon operations of larger scope.

In 1901 the Union Pacific inaugurated its new policy, which was nothing less than an attempt "to gather under one head all existing transcontinental lines, or as many as possible, and to exclude the incoming of all competitors." [2] The first step in this

[1] On the Union Pacific, see 12 I. C. C. Reports 277–306; Mitchell, T. W., *Quarterly Journal of Economics*, 21, pp. 569–612 (August, 1907); Ripley, W. Z., *Railroads: Finance and Organization*, pp. 499–516 (map at p. 500); and Moody, John, *The Railroad Builders*, ch. 11 (map at p. 48).

[2] 12 I. C. C. Reports 280.

ambitious program was the purchase early in 1901 of nearly 38 per cent of the stock of the Southern Pacific Company,—a percentage that was subsequently increased to 46.[1] By this deal the Union Pacific at one fell swoop added to its system about 9,500 miles of line, including lines from San Francisco southwest to New Orleans, east to Ogden, and north to Portland. Included within this 9,500 miles is the mileage of the Central Pacific, which owned the line from San Francisco to Ogden,[2] as well as a number of north and south branches of considerable length. All the stock of the Central Pacific was owned, and its property leased, by the Southern Pacific. By this purchase the Union Pacific secured also the line of boats from New Orleans to New York owned and operated by the Southern Pacific, and control of the Pacific Mail Steamship Company, which carried freight and passengers from the Pacific Coast to the Orient and to Panama. The purchase of the Southern Pacific was made in the middle of a period of long sustained prosperity, and consequently Mr. Harriman was enabled to make heavy expenditures for its improvement. As a result the Southern Pacific was able to begin the payment of dividends at the rate of 5 per cent in 1906, and shortly thereafter to increase the rate to 6 per cent.

The next step was the fight in the spring of 1901 for control of the Northern Pacific, and thus a half interest in the Chicago, Burlington and Quincy. This fight the Union Pacific lost, though the net result was to give Mr. Harriman a voice in the affairs of the Northern Securities Company, and thus indirectly in the three roads owned by it. Moreover, the Union Pacific made an enormous profit—over 100 per cent—on the sale several years later of most of its Northern Pacific and Great Northern stock, and in this way secured funds for further schemes of aggrandizement.

In or about 1904 the Union Pacific through the Oregon Short Line bought a half-interest in the San Pedro, Los Angeles and Salt Lake, extending from the Pacific Ocean at San Pedro through Los Angeles to Salt Lake City. [3] The Union Pacific had endeavored to prevent the construction of this road, but finally concluded to

[1] As with most of the purchases of the Union Pacific, this stock was held by a subsidiary,—the Oregon Short Line.

[2] Though the Central Pacific had a line from San Francisco to Ogden, the direct line from San Francisco to Sacramento belonged to the Southern Pacific.

[3] This line was not completed until 1905.

take a half interest in it. This purchase gave the Union Pacific a third outlet to the Pacific Coast, one in the Northwest, one at the Golden Gate, and one in the Southwest. Subsequently, in 1921, the Union Pacific purchased the remaining half of the stock of the San Pedro line.

The only remaining through route to the Pacific Coast at this time was the Atchison, Topeka and Santa Fe (the Western Pacific, from Ogden to San Francisco, and the Pacific Coast extension of the Chicago, Milwaukee and St. Paul had not yet been built). In 1904 Mr. Harriman and a number of his associates purchased $30,000,000 of the stock of the Santa Fe, equal to about 13 per cent of the total; and as a result two directors of the Union Pacific were elected directors of the Santa Fe. Subsequently the Union Pacific acquired an additional $10,000,000 on its own account. Though control of the Santa Fe was not attempted—probably because of fear of the Sherman law—harmonious relations were realized. The Santa Fe abandoned a competing steamship line from San Diego to the Orient; it pooled the citrus freight traffic of southern California with the Southern Pacific and the San Pedro, Los Angeles and Salt Lake; and it entered into an arrangement with the Southern Pacific whereby each of them acquired half of the stock of the Northwestern Pacific Railroad Company, to which company each railroad turned over certain lines north of San Francisco. Subsequently the Union Pacific interests disposed of their Santa Fe stock, yet coöperative relations were not abandoned.

As the result of these steps the Union Pacific secured control, according to the Interstate Commerce Commission, of every line of railroad reaching the Pacific Coast between Portland on the north and the Mexican border on the south—a distance as great as that from Maine to Florida—except the Santa Fe, in which line it had a large stock interest; and of his ability to "take" this road at any time the law would permit Mr. Harriman had no doubt.[1] When asked by the Commission where his policy of acquisition was to stop, Mr. Harriman replied that were it not for the law he would go on as long as he lived; if the law would let him, he would "take the Santa Fe tomorrow."[2] The extent of the power enjoyed by this individual is illustrated by the following

[1] 12 I. C. C. Reports 279.
[2] Ibid., p. 280.

statement of the Commission. "Mr. Harriman may journey by steamship from New York to New Orleans, thence by rail to San Francisco, across the Pacific Ocean to China, and, returning by another route to the United States, may go to Ogden by any one of three rail lines, and thence to Kansas City or Omaha, without leaving the deck or platform of a carrier which he controls, and without duplicating any part of his journey." [1]

A practical monopoly of transcontinental territory having been obtained, the next move of the Union Pacific was to acquire, either directly or through subsidiaries, large interests in other railways located in nearly all sections of the country. This policy was initiated in 1906.[2] The adoption of the new policy was made possible by the sale in 1906 at an enormous profit of most of its Great Northern and Northern Pacific stock, this stock having come to it upon the dissolution of the Northern Securities Company (shortly to be described). It was made possible also by the large operating profits of the Union Pacific system. Competition in transcontinental territory had been successfully restrained; rates had been advanced; enormous sums had been put back into the properties; dividends had been increased; and yet there were left large surpluses. Armed with the necessary funds, the Union Pacific and the Oregon Short Line within the eight months after June 30, 1906, expended $130,368,688 in acquiring stock in the Illinois Central, Baltimore and Ohio, New York Central, Chicago, Milwaukee and St. Paul, Chicago and Northwestern, Atchison, Topeka and Santa Fe, Pacific Fruit Express, and others.[3] Some of these roads were competitors; others, like the New York Central and Baltimore and Ohio, were not. In most cases the Union Pacific acquired only a minority interest, but in the case of the Illinois Central it acquired a large enough minority interest (29.59 per cent) to give control. The Illinois Central extended from Chicago to Council Bluffs, Iowa, just across the river from Omaha (the eastern terminus of the Union Pacific); and it extended from Chicago to New Orleans, where it connected with the Southern Pacific. The Illinois Central thus comprised the eastern side of a parallelogram,

[1] 12 I. C. C. Reports 280.

[2] As early as 1899, however, Mr. Harriman and a group of associates had secured control of the Chicago and Alton, a road extending from Chicago to Alton, Illinois (just north of St. Louis). Subsequently this company was sold to the Chicago, Rock Island and Pacific Railway.

[3] 12 I. C. C. Reports 295.

which included the Southern Pacific on the south and west, and the Oregon Short Line and Union Pacific on the north. In 1907 the Union Pacific added the Central of Georgia, which gave Mr. Harriman a through line from the West to a port in the South Atlantic. How far Mr. Harriman would have carried his Napoleonic program, had he lived, and had the law allowed, one can not say; for two years later (in 1909) he died. Three years later the Supreme Court held the acquisition of the Southern Pacific in 1901 to be illegal, and ordered a dissolution of the illegal combination. As the result of this decision, soon to be described, the Union Pacific combination declined in importance; but the Union Pacific Railroad remained (and still is) a prosperous and well-managed property.

Legal Status of Combinations

Coming finally to the legal status of combinations, the principal law dealing with this subject down to 1920 was the Sherman Anti-trust Act of 1890.[1] This act declared illegal "every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations," and forbade any one to "monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations." The first Supreme Court decision interpreting this act in its relation to railroads was the Trans-Missouri Freight Association case, decided in 1897. The significance of this decision, as well as that in the Joint Traffic Association case of the following year, lay in the fact that the Supreme Court held that the Sherman Act applied to railroads, and that its provisions made illegal an agreement among competing railroads to maintain rates.

The first decision that determined the legal status of a combination, rather than a mere agreement, was that in the Northern Securities case. The government claimed that the organization of the Northern Securities Company would put an end to competition between the Great Northern and the Northern Pacific; and it therefore brought suit in March, 1902, to have the Northern Securities Company dissolved as a combination in restraint of interstate commerce. It charged that if this far-reaching combination

[1] For a discussion of the Panama Canal Act of 1912 and the Clayton Act of 1914, see ch. 14.

were not declared illegal, the efforts of the national government to preserve to the people the benefits of free competition among interstate railways would prove unavailing; in fact, all the railroads of the country might be combined in one system. The Supreme Court on March 14, 1904, by a vote of five to four declared the Northern Securities Company illegal.[1] It held that no scheme or device could more effectively and certainly suppress free competition between the constituent companies; and to destroy or restrict free competition in interstate commerce was to restrain it, in violation of the law. One of the principal arguments urged upon the Court by the defendants was that the Northern Securities Company was authorized by a New Jersey law to acquire stock, and that the enforcement of the Sherman Act against the company would be an unauthorized interference by the national government with the internal commerce of the states creating it and its subsidiary railway companies. In reply the Supreme Court said that simply because a state allowed such stock ownership it did not follow that the stockholders of two or more state railroad corporations, having competing lines and engaged in interstate commerce, could lawfully combine and form a distinct corporation to hold the stock of the constituent corporations, and, by destroying competition between them, in violation of the act of Congress, restrain interstate commerce. "No State can, by merely creating a corporation, or in any other mode, project its authority into other States, and across the continent, so as to prevent Congress from exerting the power it possesses under the Constitution over interstate and international commerce, or so as to exempt its corporation engaged in interstate commerce from obedience to any rule lawfully established by Congress for such commerce. . . . Every corporation created by a State is necessarily subject to the supreme law of the land;" and "the court may make any order necessary to bring about the dissolution or suppression of an illegal combination that restrains interstate commerce."

The Supreme Court therefore enjoined the Northern Securities Company from voting the stock of the Great Northern and Northern Pacific Railroads, and it enjoined the railroads from paying any dividends on their stock to the Northern Securities Company. But it held that the Northern Securities Company might return to the Great Northern and Northern Pacific, respectively, the

[1] 193 U. S. 197–411.

stock of these roads held by it; or it might transfer the stock of these roads to its own shareholders. The Northern Securities Company chose the latter alternative. By a vote of the stockholders on April 21 the capital stock of the company was reduced 99 per cent, and a decision was made to distribute ratably among themselves the shares of the Great Northern and Northern Pacific. By the plan proposed, every holder of one share of Northern Securities stock would receive $39.27 of the stock of the Northern Pacific and $30.17 of the stock of the Great Northern. The result of this plan of dissolution would have been to give a majority of the stock of both railroads to the Hill-Morgan group, whereas the Harriman interests, which before the organization of the Northern Securities Company held a majority of the stock of the Northern Pacific, would receive a minority holding in both the Northern Pacific and the Great Northern. This would have followed, since prior to the organization of the Northern Securities Company the Hill-Morgan group had held almost as much Northern Pacific stock as the Harriman group, and a large block of Great Northern stock in addition; and had therefore held a majority of the stock of the Northern Securities Company.[1] Naturally this plan of distribution proved unacceptable to the Harriman interests; and they brought suit to compel the restoration to them of the Northern Pacific stock which they had turned over to the Northern Securities Company. It is not necessary to discuss this legal proceeding; suffice it to say that the Supreme Court refused to interfere,[2] and that the plan of distribution went through as voted by the stockholders.

The decision of the Supreme Court declaring the Northern Securities Company illegal was of capital importance, since it was the first instance in which a holding company was forbidden as a combination in restraint of trade. It discouraged not only the formation of railroad combinations, but of industrial combinations as well. Yet its actual effect on the relations between the Great Northern and Northern Pacific was slight. The stocks of both roads having been transferred to the same stockholders, the maintenance of satisfactory relations was only to be anticipated. The two roads continued to hold jointly the Chicago, Burlington and Quincy; and this road later extended its system by acquiring the

[1] Moreover, the terms of exchange had been more favorable to Great Northern stock than to Northern Pacific Stock.

[2] 197 U. S. 244–299 (April 3, 1905).

Colorado and Southern, which supplied an independent route to the Gulf of Mexico at Galveston, Texas.

Passing over the St. Louis Terminal Association case,[1] which involved the legality of a unification of terminal facilities at St. Louis, the next decision of the Supreme Court dealing with the legality of railroad combinations was in the Union Pacific-Southern Pacific case. The decision was rendered on December 2, 1912; and was unanimously against the company.[2] The Court held that any combination which placed railroads engaged in interstate commerce in such a relation as to create a single dominating control in one corporation, whereby natural and existing competition in interstate trade was unduly restricted or suppressed, was forbidden by the Sherman Act. This prohibition extended not only to the control of competing railroads by a holding company, as in the Northern Securities case, but also to the purchase by one railroad of a controlling portion of the stock of a competitor, even though a majority of the stock was not acquired. Indeed, said the Court, a control exercised through stock ownership by one railroad in another is about as effectual a form of combination as can be conceived. The purchase by the Union Pacific of 46 per cent of the stock of the Southern Pacific was therefore held to be an illegal combination in restraint of interstate trade. As to the purchase of stock in the Northern Pacific and the Atchison, Topeka and Santa Fe, which stock in both cases was subsequently sold, and of stock in the San Pedro, Los Angeles and Salt Lake, the bill of the Government was dismissed.

The decree of the Supreme Court ordered the dissolution of the Union Pacific-Southern Pacific combination. It directed the lower court to enjoin the voting of the stock of the Southern Pacific so long as it was in the ownership or control of the Union Pacific, or any corporation owned by it, or held by any corporation or person on its behalf; and to forbid any disposition of the stock that would continue the control of the Union Pacific. Meanwhile dividends might not be paid on the Southern Pacific stock held by the Union Pacific, except to a receiver to be appointed by the lower court. The Supreme Court specifically declared,

[1] 224 U. S. 383–413 (April 22, 1912). This case is discussed in the author's *The Trust Problem in the United States*, pp. 422–424.

[2] 226 U. S. 61–98. Justice Van Devanter took no part in the hearing or determination of the case.

however, that nothing in its decision should be construed to prevent the Union Pacific from retaining the Central Pacific connection from Ogden to San Francisco, if an arrangement to that end could be made. Such a combination, it said, would merely effect such a continuity of the Union Pacific and the Central Pacific from the Missouri River to San Francisco as was contemplated by the acts of Congress under which these two roads had been constructed.

The Union Pacific prepared to dispose of its Southern Pacific stock, and thus end the illegal combination, by distributing the stock pro rata among the shareholders of the Union Pacific. This plan of dissolution was the same in principle as that approved by the Supreme Court in the second Northern Securities decision. It was obviously ineffective, however, and accordingly the Attorney General of the United States objected. To determine the matter the Supreme Court was asked to decide whether the distribution of the Southern Pacific stock to the stockholders of the Union Pacific would constitute a compliance with the order of the Court. The Supreme Court, refusing to regard earlier decrees as precedents, decided that it was not.[1] It declared that on the face of it this plan seemed to be a proposition to perpetuate the domination and control of the Union Pacific over the Southern Pacific, because of the power given to the stockholders of the Union Pacific to choose the directors of the Southern Pacific, and thus determine its policy. After this decision there was worked out a second plan, which involved the sale of the Southern Pacific stock to the stockholders of the Union Pacific and Southern Pacific, and the purchase of the Central Pacific with the proceeds. This plan required the approval of the California Railroad Commission to certain leases and sales in California, and when this approval was withheld the plan was abandoned.

By the plan finally adopted (in July, 1913) the Union Pacific disposed of all its Southern Pacific stock.[2] Approximately 30 per cent of it was transferred to the Pennsylvania Railroad in exchange for over $42,000,000 of Baltimore and Ohio stock held by the Pennsylvania or its subsidiaries. The remaining Southern

[1] 226 U. S. 470–477 (January 6, 1913).

[2] See Daggett, Stuart, "Later Developments in the Union Pacific Merger Case," *Quarterly Journal of Economics*, 28, pp. 772–794 (August, 1914).

Pacific stock, amounting to over $88,000,000, was offered to the stockholders of the Union Pacific and the Oregon Short Line at $88 per share. Stockholders electing to exercise this option were to receive certificates of interest in Southern Pacific stock, which certificates were transferable up to January, 1916, for stock of the Southern Pacific. The transfer of stock for certificates was made conditional upon the filing of an affidavit that the holder did not possess in his own right any Union Pacific stock; that he was making the application in good faith on his own behalf; and that he was not acting for any stockholder of the Union Pacific, or in accord with any understanding with any one seeking to control the Southern Pacific for the benefit of the Union Pacific. This dissolution was unusually effective, and it had the further merit of divesting the Pennsylvania Railroad of the stock it held in the Baltimore and Ohio, a competing line. The Union Pacific subsequently presented its own shareholders with the Baltimore and Ohio stock received in exchange for a portion of the Southern Pacific stock.

Passing over the decision of the Supreme Court in the Reading case (1912),[1] and the dissolution of the New York, New Haven and Hartford (1914) as the result of pressure by the Department of Justice without the formality of a court decision[2]—we do not pretend to give a complete chronicle of the railroad combination cases—we come to the decision in the Southern Pacific-Central Pacific case. The relations between these two roads had long been close. As early as 1870, or thereabouts, the promoters of the Central Pacific had gained control of the Southern Pacific, and at times thereafter a majority of the stock of both railroads was held by the same persons. In 1885 the Southern Pacific took a lease of the Central Pacific for 99 years, and in 1899 acquired all of its stock. This was the situation in 1912, when the Supreme Court ordered the separation of the Union Pacific and the Southern Pacific. By that decision, it will be recalled, the Union Pacific was authorized to acquire that portion of the

[1] 226 U. S. 324–373 (December 16, 1912). This was a proceeding to dissolve the combination of anthracite coal carriers. The decision of the Court is described in the author's *The Trust Problem in the United States*, pp. 426–429. See also 253 U. S. 26–65 (April 26, 1920).

[2] A copy of the decree is in Decrees and Judgments in Federal Anti-Trust Cases, 1918, pp. 529–544. A brief account is in Ripley, W. Z., *Railroads: Finance and Organization*, pp. 571–573.

Central Pacific which extended from Ogden to San Francisco, though the Southern Pacific was not required to part with it. Despite this authorization, and despite the insistence of the Attorney General that this arrangement be carried out, the dissolution plan as finally adopted left the Southern Pacific in control of the Central Pacific. Accordingly the government brought suit in 1914 to effect the separation of these roads on the ground that the ownership and lease of the Central Pacific by the Southern Pacific was illegal under the Sherman Act. The decision of the Supreme Court was rendered on May 29, 1922.[1] Pointing out that the Central Pacific with its eastern connection at Ogden formed one great system of transportation between the east and the west, and the Southern Pacific with its roads and connections formed another great system, the Supreme Court held that this case did not differ at all in principle from the Union Pacific case already decided. It therefore directed that a decree be entered severing the control of the Central Pacific by the Southern Pacific. The later developments in this case will be described subsequently.

In concluding this chapter the attention of the reader should again be called to the fact that a new policy with respect to combinations (and pools) was inaugurated by the Esch-Cummins Act of 1920. By this act combinations (and pools) were made legal under certain conditions when they had the approval of the Interstate Commerce Commission. These provisions will be discussed in the chapter on the Esch-Cummins Act.

REFERENCES

Cleveland, F. A. and Powell, F. W.: *Railroad Finance*, chs. 15–16 (1912).

Daggett, Stuart: "The Decision on the Union Pacific Merger," *Quarterly Journal of Economics*, vol. 27, pp. 295–328 (February, 1913).

Dixon, F. H.: "Railroads in their Corporate Relations," *Quarterly Journal of Economics*, vol. 23, pp. 34–65 (November, 1908).

Garner, J. W.: "The Northern Securities Case," *Annals of the American Academy of Political and Social Science*, vol. 24, pp. 125–147 (July, 1904).

Interstate Commerce Commission Reports, vol. 12, pp. 277–306 (1907).

Johnson, E. R. and Van Metre, T. W.: *Principles of Railroad Transportation*, ch. 6 (1921).

[1] 259 U. S. 215–247. One judge rendered a dissenting opinion, and two judges took no part in the decision of the case.

MEYER, B. H.: *A History of the Northern Securities Case* (1906).
MITCHELL, T. W.: "The Growth of the Union Pacific and its Financial Operations," *Quarterly Journal of Economics*, vol. 21, pp. 569–612 (August, 1907).
MOODY, JOHN: *The Railroad Builders* (1919).
RIPLEY, W. Z.: *Railroads: Finance and Organization*, chs. 13–17 (1915).

CHAPTER XVIII

RECEIVERSHIP AND REORGANIZATION

In this chapter we deal with railroad failures. We propose to indicate briefly the importance of the subject; to describe the principal causes of failure (or insolvency);[1] to discuss the administration and operation[2] of insolvent railroads by officers of the court, known as receivers; and to explain how insolvent railroads are reorganized so that thereafter they can meet their obligations to their creditors and to the public, and realize some profits for their owners as well.

Extent and Frequency of Railroad Failures

The importance of the subject can be indicated by a brief statement of the extent and frequency of railroad failures. During the ten years following the panic of 1873 (1874–1883), 216 railroads were thrown into the hands of receivers.[3] These roads owned over 27,000 miles of line, or nearly one-third of the country's average railroad mileage during this period. An investigation of receiverships during the years from 1884 to 1899 disolosed the fact that during this period there failed 521 railroads, owning over 78,000 miles of line, and having an aggregate capitalization of over $5,300,000,000.[4] In the panic year 1893 alone there failed 119 railroads, owning nearly 28,000 miles, and capitalized at nearly $2,000,000,000. The failures of this one year constituted more than 15 per cent of the country's mileage. During the eleven years from January, 1907, to December, 1917—a period including the panic years of 1907 and 1914—nearly 60,000 miles of railroad were placed in the hands of receivers.[5] These roads represented

[1] The terms failure and insolvency are synonymous. Both mean the inability to pay one's debts as they fall due. See Bouvier's *Law Dictionary*.

[2] The failure of a railroad does not mean that it ceases to operate; for the public must have uninterrupted transportation service.

[3] Swain, H. H., *Economic Studies* (American Economic Association), vol. 3, no. 2, p. 68.

[4] Poor's *Manual of Railroads*, 1900, p. LXXII.

[5] Daggett, Stuart, *Quarterly Journal of Economics*, 32, p. 446.

over one-fifth of the total mileage, and a capitalization of over $3,700,000,000. A number of railroads have failed twice, and some three times or more. Among the roads that have failed three times are the Erie; the International and Great Northern; the Missouri, Kansas and Texas; the Philadelphia and Reading; the St. Louis and San Francisco; the Toledo, St. Louis and Western; and the Wabash. The average duration of railroad receiverships is about three years, though in the case of one road—the Vermont Central—it was twenty-nine years before the property was returned to the owners.

Of late years receiverships have not been quite so frequent.[1] Many of the weaker roads have been united with stronger systems, or, in some instances, have been abandoned. Others have profited by the experiences of the past; and have come to realize the advantage of conservative financing policies. Nearly all have been influenced by the increasing necessity of conducting their affairs so as to receive the support of public opinion, and the approval of the Interstate Commerce Commission (since 1920) for new security issues. But of greatest importance, probably, is the fact that the country has grown up to, and perhaps beyond, its transportation facilities. No longer is it true as of old that the railroad facilities are superabundant, leading to severe competition; on the contrary, the problem in these modern days is to secure a development of railroad facilities adequate to handle the business. With expansion and competition held in check, and with rates and security issues and the construction of new lines subject to the control of the Interstate Commerce Commission, some diminution in the extent and frequency of railroad failures is to be anticipated. Nevertheless there is no reason to believe that receiverships will not take place from time to time; and accordingly the subject is one that is fully deserving of attention.

Principal Causes of Failure

The causes of railroad failure are numerous, and only four of the principal ones will be described. These are: (1) drastic, or even ruinous, competition; (2) unprofitable expansion; (3) overcapitalization; and (4) mismanagement and fraud. These

[1] On December 31, 1923, there were 12,919 miles of railroad in the hands of receivers. This was the lowest figure since 1912. *Railway Age*, 76, p. 69.

causes are often closely related one to another, yet they are sufficiently distinct to warrant separate treatment. As one author puts it, they range from undue optimism at one end of the scale to downright fraud at the other.

(1) Drastic competition. The reasons why competition among railroads has been unusually drastic, even ruinous at times, have already been explained at considerable length. The fact that increased traffic, up to the point of the most effective utilization of the plant, does not occasion a corresponding increase in the cost of operation gives the railroads an incentive to add to the volume of their business, by concessions in rates if necessary. In the struggle for traffic rates may fall so low that they cover only the *extra costs* attributable to the increased traffic; indeed if the competition degenerates into warfare, railway managers may go so far as to do business at an actual loss. During the rate wars of the seventies, for example, traffic was frequently taken at unprofitable figures; and numerous failures were the result. The situation is especially acute when the competition is between parallel roads, such as the New York Central and the West Shore, and the Lake Shore and the Nickel Plate. Competition is peculiarly intense, of course, during periods of industrial depression, when the total volume of freight undergoes a marked decline. Since costs can not be cut in proportion to the decline in the traffic—interest on bonds, for example, continues, whatever the volume of traffic—reduced net earnings and some failures are well-nigh inevitable. This is the explanation of many of the failures that followed the panics of 1873, 1893, and 1907. However, competitive conditions nowadays are quite different from what they used to be. Rate wars are a thing of the past; so much seems assured as the result of the creation of railroad combinations, the control over rates exercised by the Interstate Commerce Commission, and the filling up of the country. Such competition as we have now is mainly in service, as it should be. Railroad failures as the result of drastic competition in rates may therefore be expected to disappear,[1] but so long as industrial depressions continue, involving a diminution in the aggregate amount of traffic, we may expect the recurrence of railroad failures. Even such failures, however, could be largely

[1] Railroads peculiarly subject to the competition of water routes may possibly fail because of the necessity of meeting the low rates charged by the water lines.

avoided if the financial structure of the railways was always conservatively framed, as we shall shortly show.

(2) A second cause of failure is unprofitable expansion. Some authors do not treat expansion as a separate cause of failure, but include it with competition. Their justification for so doing lies in the circumstance that competition among railways often takes the form of an extension of lines for the purpose of increasing earning power or of improving the strategic position. Yet many projects of expansion are not connected with the competitive struggle, and therefore, in our opinion, overexpansion may be regarded as a separate cause of failure.

Overexpansion may assume a number of forms. First, a railroad may build into territory that has not yet developed sufficiently to support it. For example, the Northern Pacific Railroad failed in 1875, not because the Northwest could not eventually support a railroad, but because the region was not sufficiently developed at that time to sustain a project of the size of the Northern Pacific. Second, a company may build into territory that is sufficiently developed to support a railroad, but by means of construction companies in which the directors of the railroad are interested it may so inflate the cost of construction that the enterprise can not bear the load. A case in point is the St. Louis and San Francisco, which failed in 1913, partly because its directors caused the railroad to buy from themselves at excessive prices various lines that they had constructed in the Southwest. Third, a railroad may build or acquire branch lines and feeders to increase the volume of its traffic, yet not obtain sufficient tonnage to justify the expense. It was principally this cause, combined with a bad lease of the Wisconsin Central, that made the Northern Pacific insolvent for the second time in 1893. Fourth, a railroad may fail because the mania for combination leads to the creation of a system that is too large for effective operation. How large a system may economically be is not definitely known, but if the expansion is financed by excessive payments for the lines that are acquired, or if conservative principles of financing are not followed, insolvency may result, even though the system thus created was not too large for economical operation. Such was the fate of the Gould system of railroads, though in this instance a vast amount of expensive construction was also involved. About 1901 the Gould family embarked upon an ambitious program of expansion, which had as its object the

creation of a true transcontinental line, extending from the Pacific Ocean to the Atlantic. The principal roads in this line were the Western Pacific, the Denver and Rio Grande, the Missouri Pacific, the Wabash, the Wheeling and Lake Erie, the Wabash-Pittsburg Terminal Company, and the Western Maryland. Had the project been financed conservatively it might have succeeded, despite the great cost of new construction in mountainous territory, but conservative financing was something about which the Goulds knew little. As a result the panic of 1907 led to the failure of some of the links in the chain; and the rest followed suit sooner or later. Finally, overexpansion may take the form of an entrance of the railroad into other industries, usually more or less connected. An illustration is the purchase by the Philadelphia and Reading after 1869 of enormous deposits of anthracite coal, for the purpose of safeguarding the future traffic of the road. Valuable as these deposits were, the Reading bought more than it could pay for. The interest charges on the bonds given in payment proved to be too great a load; and in 1880 the railroad went into receivers' hands. The later history of the road is instructive. Hardly had the Reading been reorganized before it leased the Central Railroad of New Jersey, also an anthracite carrier. The Central Railroad had failed because of inability to meet its fixed charges; but the Reading, nothing daunted, agreed to pay a rental that not only covered the fixed charges, but also 6 per cent on the Central Railroad's stock. The next year (1884) the Reading became insolvent for the second time. The road was reorganized and returned to its owners in 1888, but without the Central of New Jersey. Four years later the Reading established a more far-reaching combination, in the hope of boosting the price of coal sufficiently to meet the interest on the bonds issued to pay for the anthracite coal lands. It leased the Lehigh Valley Railroad, a leading anthracite carrier; it leased the Central of New Jersey for the second time; it secured control of the Boston and Maine; and it entered into other expensive arrangements. The year following (1893) it became insolvent for the third time.

(3) A third cause of failure is overcapitalization. What constitutes overcapitalization we considered in chapter XVI. In that chapter we pointed out the serious objections to earning capacity as a basis of capitalization; and in chapter XV its weakness as a basis of valuation. But in connection with receivership it is earn-

ing capacity that is significant. Obviously what causes a railroad to fail is the insufficiency of earnings. By this term as here used we mean earnings insufficient to meet the fixed charges, rentals, etc., and not to pay dividends on stocks, or even interest on income bonds, which is not payable unless earned. This statement may seem to be in conflict with earlier ones. In other chapters we repeatedly said that railroad earnings must be adequate if the people are to have satisfactory transportation facilities; and that earnings are not adequate unless they give a fair return to the *stockholders* as well as to the bondholders. We adhere to this view, yet obviously earnings may be quite inadequate in this sense without leading to insolvency. Failure (or insolvency) does not result until the railroad is unable to meet its obligations as they fall due; and dividends on stocks do not fall due unless declared. What constitutes failure is the inability of the railroad to pay the principal (upon maturity) and the interest (when due) of its obligations, such as bonds, notes, floating debt, and the like. In attributing failure to overcapitalization, therefore, we have in mind a capitalization composed in part, and usually in large part, of bonds, as well as stock. The New Haven Railroad was guilty of numerous financial excesses in its struggle to secure a monopoly of the transportation system of New England, yet despite its staggering losses it succeeded (by a narrow margin) in avoiding a receivership. The reason is that it financed its extravagant purchases in considerable measure through stock issues. To be sure, it had to suspend dividends on its stock, and they have not been resumed; but overcapitalization in the form of stock does not precipitate a receivership. True though this be, it is also true that overcapitalization in the form of stock may contribute to failure. An excessive capitalization in this form increases the difficulty of raising, through the sale of stock, the funds needed for improvements and extensions, and thus encourages the resort to bonds in disproportionate quantities. Such injudicious financing in time creates a volume of fixed charges which may prove to be beyond the railroad's earning power in periods of industrial depression. It is to the interest of the railroads, therefore, as well as to the public interest, that their capitalization be kept within reasonable limits, and that it be properly divided as between bonds and stock.

(4) A fourth cause of failure is mismanagement and fraud. The Philadelphia and Reading supplies an excellent illustration of fi-

nancial mismanagement. This road had failed in 1880, and had been reorganized in 1882. Hardly had it passed out of receivers' hands when a dividend of 21 per cent on the preferred stock, representing arrears due, was paid; and it was actually proposed to pay a 3 per cent dividend on the common also. The folly of this proceeding is indicated in the fact that the Reading became insolvent again in 1884. The payment in dividends of funds that should have been devoted to the upbuilding of the property had much to do with the failure of the Boston and Maine, the Missouri Pacific, and numerous other roads. Sometimes such payments are clearly fraudulent. For example, during 1873 to 1875 the directors of the Erie reported a profit of over $5,000,000, on the strength of which they paid dividends on both the preferred and common stocks. In fact, the profits were less than one-fifth of this amount. In 1875 the Erie went into the hands of a receiver. Between 1888 and 1895 the Baltimore and Ohio paid out over $6,000,000 in dividends, making it appear by the "cooking" of its accounts that the dividends were earned. As a matter of fact, during these years the earnings available for dividends were less than $1,000,000. Chickens come home to roost; and in due course (1896) the Baltimore and Ohio failed. The failure of the St. Louis and San Francisco in 1913 was due to many causes, but prominent among them was the purchase at excessive prices of new lines built by the directors and officers of the road, and saddled upon it by them. These modern pirates were faithless to the trust imposed in them by the stockholders; instead of endeavoring to make profits for their stockholders they made profits out of them.

The foregoing are the fundamental causes of failure, though they are not the causes usually given by particular railway officials in explaining their own failures. Usually they attribute failure to lack of working capital, inability to meet the floating debt, etc. These may be the immediate causes of failure, but the explanation is a superficial one. What happens is a weakening of the railroad's position through drastic competition, unprofitable expansion, overcapitalization, mismanagement, fraud, or some other fundamental cause. In the endeavor to bolster up its weakening position the road borrows more money, first by the sale of bonds perhaps, and then by the sale of short term notes. It borrows from the banks, and it postpones payment to its creditors for supplies and equipment purchased. These heroic measures may

stave off failure for a time, but if fundamental causes are present the relief is but temporary. Finally the debts reach such an aggregate that creditors refuse to grant further extensions. The resulting failure is attributed to lack of working capital, but this is seldom the real explanation. There are failures, to be sure, brought on by the maturity of obligations at an unfavorable season, even though the railroad is fundamentally in a strong position, yet these are the exception rather than the rule, and it is with the failures attributable to some fundamental cause that we shall principally deal.

Operation by Receivers

We proceed now to discuss the administration and operation of insolvent railroads by receivers.[1] As stated earlier, a railroad that has become insolvent does not cease to operate. If it did it would sacrifice its franchise. Yet even if it is willing to give up its franchise, it may be compelled to continue operation, because of the interest of the public in uninterrupted service. The recent legislation on this subject is embodied in the Esch-Cummins Act of 1920. By this act the approval of the Interstate Commerce Commission is required for the abandonment of all or part of the line of any railway engaged in interstate commerce, or of the operation thereof; and a number of states have similar provisions with regard to the railroads under their jurisdiction. What happens, then, in the case of failure is that the administration and operation of the railroad is taken over by a court of competent jurisdiction, which operates the road through an officer, known as a receiver.

The process by which an insolvent railroad gets into the hands of a receiver may be briefly outlined. In the early days receivers were appointed at the request of creditors, who claimed that the railroad was unable to meet its obligations, and who asked that the court appoint a receiver to safeguard their interests. This request was usually opposed by the officials of the railroad. Nowadays, however, most receiverships are asked for by the railroad officials.[2] These receiverships are called "friendly" or "consent"

[1] Receivers are sometimes appointed for solvent railroads, but our treatment is confined to those that are insolvent.

[2] The right of a railroad to ask for the appointment of a receiver on its own behalf was first affirmed by the Supreme Court in the Wabash case in 1892. See 145 U. S. 82.

receiverships. The usual procedure is as follows. The directors having decided that a receivership is advisable, a friendly creditor, at the request of the officials, appears before the court, and alleges that the railroad owes him money which it can not pay. The railroad admits the truth of this allegation, and asks the court to appoint a receiver to protect the property. The railroad represents that unless the court grants the request, the creditors of the company will foreclose upon their several mortgages, and render the company unable to perform its operating functions. The court thereupon appoints one or more receivers. Almost invariably one of the receivers is an official of the railroad, perhaps the president or general manager. In earlier days it was the practice to appoint only one receiver, and he was generally the president of the road. The reason for appointing a railroad official was that the administration of a railroad is a task of the first magnitude; and there is an obvious advantage in intrusting it to some one familiar with the property. The objection was raised that the work of rehabilitation should not be turned over to the very individual who was presumably responsible for the failure. To meet this objection, which had weight, it is now the practice to appoint two receivers, one connected with the railroad and therefore familiar with its affairs, and the other not connected with the railroad, but of unquestioned probity. The court retains full power, of course, to remove the receivers if they prove unfit for their task.

The application for a receivership may be made either in a federal court or in a state court, though it is usually made in the former. If brought in a federal court the rule is that it should be brought to the district court having jurisdiction over the territory in which the principal office of the railroad is located. If the railroad passes through, or has property in, other judicial districts, an ancillary or auxiliary suit is entered in each one of these districts. The courts of these districts in turn appoint one or more receivers, generally the same persons as were appointed by the court that first obtained jurisdiction. The latter court is recognized as the one of primary authority, though conflicts sometimes arise between the several courts. The same general principles apply when the application for a receivership is made in a state court. If resort is had to a state court the railroad makes its petition through a creditor residing in the state where the principal office of the

railroad is located; if resort is had to a federal court a nonresident creditor is chosen.

The receivers upon taking charge become the administrative heads of the railway. Their principal duty, subject to the direction of the court, is to operate the property until a plan for reorganizing the railroad has been approved by the interested parties and by the court. In carrying on the work of operation the receivers generally retain the existing staff, though they may make certain changes in the personnel. Usually one of their first duties is the improvement of the roadbed, structures, and equipment. It is common for railway officials, who fear insolvency, to ward off or postpone the evil day by skimping on maintenance as much as possible. If these measures prove ineffective, and failure results none the less, the property when it comes to the receivers may be in dire need of repair. Economy and safety of operation demand that the receivers regard the upbuilding of the property as one of their first tasks. They may even construct new mileage, if they believe this to be in the interest of the road. The receivers have to decide which obligations to meet and which to default on. They take care of current operating expenses, of course, and usually of obligations that were incurred on account of operation in the past, but that were left unpaid by the railway managers because of their frantic endeavors to stave off failure (through the diversion of current income to the payment of fixed charges.)[1] The receivers almost invariably pay the interest on car trust certificates, because the title to the equipment by which they are secured is not held by the railroad, but by a trustee for the certificate holders. Since the railroad needs cars and locomotives, and since the trustee can take away the equipment in the event of default, the receivers elect to continue interest on these obligations. The receivers may pay the interest on the bonds and other obligations if they see fit, but usually they do not, for the reason that it is seldom earned. Moreover, one reason for the receivership and reorganization is to effect the postponement of certain claims until the road can be put on its feet again; and the deflection of such income as would be available for interest to the improvement of the property is one means of bringing about this result.

[1] If these unpaid obligations have gone uncollected for a considerable period, say six months, the receivers may not accord these creditors such favored treatment.

The receivers may also cancel leases and contracts which constitute a burden on the railroad, and they may even enter into new contracts, in both cases after obtaining the consent of the court, of which the receivers are but the agents.

The carrying out of these important duties requires large sums of money. The necessary funds are secured in part, as just stated, by withholding interest from the bondholders, but this saving is seldom sufficient. For the most part the needed funds are secured through the sale of receivers' certificates. These are interest bearing promises to pay, usually running for a short term, secured by the property in the hands of the receivers. The certificates are given such priority as the court deems necessary. They may be placed just ahead of the bonds in default, or they may even be placed ahead of the first mortgage bonds. The power of the receivers to issue certificates, subject though it be to the approval of the court, seriously jeopardizes the rights of the bondholders. Accordingly the bondholders are given notice of the intention of the receivers to issue certificates, and are allowed to protest to the court against their issuance, or against giving them a lien prior to that enjoyed by the bonds. As a rule, however, the courts permit the receivers to issue certificates in any reasonable amount, and for any purpose that is believed to be beneficial, provided it is anticipated that the net earnings will be adequate to take care of them. Usually, however, the court prescribes the specific purpose for which the proceeds may be employed. The final reorganization plan, soon to be described, must make provision, of course, for the retirement of the receivers' certificates, in case they have not been retired prior to the adoption of the plan.

The receivership is terminated by judicial order, and the property delivered to the company (or its successor), as soon as the occasion for a receivership has disappeared. This is usually upon the adoption of a plan of reorganization and its approval by the court. With the plan of reorganization the receiver should have nothing to do; his business is to operate the railroad, and meanwhile to conserve the rights of the interested parties.

Reorganization Plan

Receivers having been appointed to operate the property and to conserve the interests of all parties, the next step is the preparation of a reorganization plan. The object of this plan, figuratively speaking, is to set the railroad upon its feet again, so that thereafter it can pay its debts, furnish the public with adequate service, and earn a profit for the shareholders.

The preparation of the plan usually devolves upon a general reorganization committee. Shortly after the announcement of a receivership, and sometimes before its announcement, committees are organized to protect the interests of the creditors and security holders. There are generally as many committees as there are groups with substantial interests at stake. If the railroad has outstanding first mortgage bonds, second mortgage bonds, collateral trust bonds, debentures, floating debt, preferred stock, and common stock, there will usually arise a separate committee to represent each of these interests, as well as additional committees to represent such other interests as may have a stake in the reorganization. Sometimes when the first mortgage bonds are not in default, the holders of these bonds are not represented by a committee, though there is often an advantage in their having a committee to represent them, as, for example, to protest against the placing of receivers' certificates ahead of their securities. There are other exceptions at times, yet as a rule each group of creditors or security holders has its own committee. These committees are usually self-appointed. A number of individuals, connected perhaps with a well-known bank or investment house, constitute themselves a committee, and request the holders of the securities they represent to place their interests in the hands of the committee. There is no obligation upon any security holder or creditor to intrust his interests to this particular committee, or to any committee at all, but it is generally to his advantage to be represented by some committee. The method of assenting to the committee as constituted is to deposit the securities with the trust company designated as the depositary. When the majority of an issue has deposited its securities and made the necessary contribution toward the expenses, the committee becomes the representative of that particular issue, and is recognized as such by the courts. The powers of these committees are care-

fully defined in a protective agreement filed with the depositary, but as a rule they are very broad. The next step usually is for these numerous committees to create a smaller body to which the preparation of a plan of reorganization can be intrusted. This body is made up of a representative of each of the separate committees, and is known as the general (or joint) reorganization committee.

The first task of the reorganization committee is to gather the facts necessary for the preparation of a satisfactory plan. It must inquire into the earnings and condition of the railroad. Sometimes, especially in earlier days, the reported net earnings did not represent the actual net earnings, because of the employment of improper accounting practices or because of the failure to expend sufficient sums on maintenance. It is necessary for the reorganization committee to know what the net earnings actually were, and to know to what extent the property has depreciated. The committee must decide which leases and contracts to continue, and which to abrogate. It must estimate the expenses of the receivership and of the reorganization. It must ascertain as best it can the sacrifices that can be demanded of the creditors and stockholders, and the prospects of raising new money. All these and many other matters the committee must inform itself about before it can make much headway with its job.

The two principal objects of the reorganization committee are to secure the necessary funds and to reduce the fixed charges. Additional funds are required for many purposes. The floating debt must be paid off, or funded into new securities. The floating debt consists of bank loans, bills for supplies and equipment, unpaid wages, and similar current obligations. It is usually secured by collateral, the sale of which would involve an undue and unnecessary sacrifice, as well as deprive the railroad of property that may be essential to it. Yet whether secured or not, the floating debt must be taken care of. Secondly, the physical condition of the property must be improved. During the period preceding receivership maintenance was probably neglected to the detriment of safe and economical operation. This condition must be made good at an early date; indeed the need may have been so pressing that the work of rehabilitation may have been begun, and even finished, by the receiver before the reorganization committee has completed its plan. The fact that the receiver

has made expenditures for this purpose does not make unnecessary the raising of funds, for the reorganization plan must arrange for the retirement of the receivers' certificates, whether these were issued to improve the property, redeem the floating debt, or what not. Thirdly, working capital must be provided for the insolvent railroad or its successor. Every large concern requires a great deal of cash for current needs, and in addition the railroad should be in a position to make further improvements without appealing to the public for funds. Fourthly, provision must be made for the expenses incident to the reorganization. These expenses are frequently very heavy. Finally, funds must be secured with which to meet the claims of those creditors who refuse to accept the reorganization plan.

How are the necessary funds to be obtained? There are two ways. One is by the sale of securities. These securities may be those of other companies held in the treasury of the insolvent railroad, or they may be those of the insolvent railroad itself. The sale of securities resting in the treasury will probably avail little, because the railroad, in the hope of averting failure, probably sold, long before the receivership, all of the securities that it could let go without grave loss to its system. The sale of the railroad's own securities is a possibility, yet sufficient funds can seldom be obtained in this way. The market for the securities of an insolvent railroad is poor. In all likelihood the railroad can not offer for sale bonds that enjoy a first mortgage; and junior bonds and stocks can hardly be sold to advantage under the circumstances.

The other way of raising funds is by an assessment on the security holders. The amount of money required having been determined, the reorganization committee estimates the amount of an assessment that the common stockholders will bear. The assessment should not too be great, or the common stockholders will not pay it. Their stock is fully paid and nonassessable; and they are therefore at perfect liberty to refuse to meet an assessment. If they refuse, however, they will probably be denied the privilege of participating in the reorganization, and thus of recovering their losses in the future. As the saying goes, they will be "wiped out." Accordingly most stockholders either decide to pay the assessment, or to sell their stock, for the small sum it will bring, to some one who is willing to pay it, and to take a chance on the future. The amount of the assessment to be levied on the common

stockholder depends on the needs of the company and on its prospects, but it is difficult to persuade the holder of common stock, which has a very low market value, to pay more than $10 or $20 per share. The preferred stockholders will also be called upon in all probability to pay an assessment. The same general principles apply here also. Their stock is worth more than the common stock, and their equity is larger, therefore they will probably be asked to pay the same assessment as the common stockholders. This may seem unfair to the holders of the preferred stock, but the money has to be obtained somehow. If the funds secured by the assessment of the stockholders prove insufficient, the junior bondholders will be assessed. The bondholders are naturally very reluctant to pay assessments; they dislike to "throw good money after bad." Nevertheless the exigencies of the situation sometimes demand that they put in a little more to save what they have already invested. In rare instances the senior bondholders are asked to pay an assessment, though they will refuse if by foreclosing on their mortgages they can recover the face of their loans. In all of these cases the rule is to give some security to compensate for the assessment. The security is usually stock, though bonds are sometimes given. At times the payment of an assessment merely entitles the stockholder to turn in his old shares for shares in the new corporation, dollar for dollar. There is no rule that applies in all cases; each reorganization must be adjusted to the particular situation with which it deals.

Whichever of these two ways of raising money be adopted—sometimes both are adopted—it is desirable to have a definite assurance that the necessary funds will be forthcoming. It is not possible to know in advance what percentage of the assessments will be paid, for a security holder who has deposited his securities with a protective committee is under no compulsion to accept the plan of the reorganization committee. Neither is it possible to predict how well the new issues of securities will sell. Accordingly the practice is to have an underwriting syndicate guarantee to take the place of those security holders who refuse to pay their assessments, and agree, in addition, to buy a block of the new securities. The backing of the syndicate encourages the security holders to provide the necessary financial assistance, and improves the prospects of the company by enlisting in its support a group of bankers anxious to have the later history of

the company reflect credit upon themselves and the institutions they represent. In return for their underwriting services the syndicate members receive compensation, in the form of securities, proportionate to the risk involved. The fact that their pay is taken in securities furnishes them an added reason for favoring the adoption of a plan that will give new life to the company, and increased value to its securities as soon as the success of the plan has been satisfactorily demonstrated.

The second object of the reorganization committee is the reduction of the fixed charges. Generally it is the inability to meet the fixed charges that leads to failure; and therefore it is essential that this burden be lightened. A well devised plan will cut down the fixed charges to the level of the minimum net earnings; for unless this is done the road may shortly fail again. A reduction of the fixed charges is usually brought about in two ways. The first way, and generally the less important, is through the cancellation of burdensome leases or contracts; or, if not their cancellation, the reduction in their rentals. So long as a railroad is solvent, it must live up to its leases (and other contracts), but the receivers have a right to repudiate these contracts, and will probably do so if they are burdensome. Thus, the receivers of the Northern Pacific cancelled the lease of the Wisconsin Central, to which reference has already been made. Notwithstanding the repudiation of the lease by the receivers it continues in force against the old company. To meet this situation the reorganization committee may find it necessary to organize a new company, which can take over through foreclosure sale the property of the insolvent railroad.[1] By this means the lease obligation can be permanently eliminated. The lease, it may be observed, was made with the old company, and it constituted no lien upon its property. The lien upon the property was held by the bondholders and other creditors; and these creditors through the reorganization committee have foreclosed on their mortgages. The old company that made the lease is thus left without means to pay the rentals; and the new company is under no obligation whatever to honor the contracts of the old. The reason for this is that the creditors had a lien on the property, as the lessors did not; and since the property does not sell for enough at foreclosure sale to satisfy the claims of the creditors, the lessors are naturally left out in the cold.

[1] Cf. pp. 372–373.

From what has been said it does not follow that all leases are cancelled. Some may be so valuable that both the receiver and the reorganization committee will decide to continue them. Others may be advantageous providing the rentals are reasonable. If, then, the property of the leased railroad is valuable only as part of some railway system, and especially as a part of the system to which it is already leased, the owners of the leased line must consent to a reduction in their rentals as the price of the continuation of the lease. This is not universally the case, to be sure. Sometimes the charter of the insolvent railroad is so liberal that the reorganization committee does not wish to sacrifice it, and to take out a new charter for a new company. If this is the situation the owners of the leased line are in a better position to bargain effectively. Yet as a rule it is true that the reorganization committee can enforce a reduction in the rentals of the leased line, and in this way reduce the burden of the fixed charges.

The second way of reducing the fixed charges is to reduce the interest charges. There are several methods of accomplishing this result. One is to reduce the principal of the bonds (or notes). The holder of a $1000 bond may be required to exchange it for another bond enjoying the same security and bearing the same interest, but of a lower denomination, say $800. For this sacrifice the bondholder may be recompensed in other ways, as will be explained in a moment. Another method is to leave the principal as before, but to reduce the rate of interest. The holder of a $1000 bond bearing 5 per cent interest may be required to accept in its stead a bond bearing 4 per cent. Still another method is to replace securities bearing a fixed interest charge with others that have only a contingent claim on earnings. These contingent charge securities may be income bonds, the interest on which is payable only if earned, or preferred or common stock, the dividends on which are not payable, even if earned, unless declared by the directors. It is by the use of such securities that the bondholders generally receive some compensation for the reduction in their principal or in the rate of interest. A good rule to follow is to give to the sacrificing bondholders enough securities of one kind or another so that their annual income with returning prosperity will be as large as it would have been had they not been obliged to make a temporary sacrifice. Indeed they may be given a larger face value of securities in the

aggregate, so that if the road subsequently becomes prosperous, they will actually receive a larger annual income. This opportunity to participate in the future increased earnings of the company reconciles many creditors to the inevitable sacrifice, and conduces therefore to the adoption of the reorganization plan.

It must not be supposed, however, that all the bondholders are invariably required to make a sacrifice. Some bonds are in such a strong position that their owners can insist on their legal rights. The interest on their bonds is being earned, and the property that secures them is worth at foreclosure sale the face of the bonds. Such bonds, presumably of various issues, will be refunded, if possible, into a single large issue of equal security, running for a long term, thus simplifying the railroad financial structure. The situation of many of the bondholders, however, is less fortunate. They also have the right to foreclose, but usually this would avail them little. In order to foreclose they would have to pay off the prior liens, and that would be very expensive. And supposing they did foreclose, what would they get? Seldom the face of their claims; for a railroad that does not earn enough to pay its debts will not sell for enough to pay off the principal. Speaking generally, a property will sell for the capitalized value of its earnings, and if the earnings are insufficient to meet the interest on the bonds, the capitalized value will be less than the principal. The result is that all bondholders except those whose position is impregnable must make some sacrifice; and therefore their best policy is to cöoperate to put the road squarely on its feet in the hope that eventually they can recover in the form of dividends (or interest on income bonds) what they have sacrificed in the form of interest on fixed charge bonds. It is not necessary, of course, to give to the sacrificing elements a volume of securities equal to those which they formerly held, yet this conduces greatly to the general satisfaction, and thus to the success of the plan. As Professor Daggett, an authority on reorganization, observes, "there is a magic in the par value stamped upon a certificate which affords a certain consolation to those from whom sacrifices in interest are demanded." The consequence is that reorganization in the past usually involved an increase in the aggregate capitalization. This increase was in stocks, of course, rather than bonds, and therefore did not seriously endanger future solvency. The reorganizations of recent

years, however, do not show this tendency toward an expanded capitalization to the same degree, and now that the issuance of securities is under government control past experience in this regard will hardly be repeated.

Let us assume that the general reorganization committee has finally worked out a plan which meets with the support of the various protective committees. The plan is then published, with the recommendation of the several committees that it be accepted by the interests which they represent. The plan is accompanied by a reorganization agreement, which defines the powers of the committee or persons intrusted with the task of executing the plan. The agreement provides that security holders who have deposited their securities on behalf of their particular protective committee may now withdraw their securities within a stated period, but that those who leave their securities on deposit will be regarded as giving their assent to the plan and the accompanying agreement. Moreover, an opportunity is given to those security holders who failed to deposit their securities before, to do so now, and thereby participate in the reorganization. This permission is given because of the desirability of securing as general support of the plan as possible. If the plan is an equitable one a large proportion of the depositors will give their approval, and arrangements may then be made to put it into operation.

Before the plan can be placed in operation and the receiver discharged a number of other steps have to be taken. On rare occasions, to be sure, the job, once it has reached this point, is practically completed. If nearly all of the security holders accept the plan, the matter is relatively simple. The old corporation remains in existence; retains its property; obtains the necessary funds through the sale of new securities or through assessments on the security holders; effects a reduction of its fixed charges through the adjustment of lease contracts and through an exchange of securities; and with the backing of an underwriting syndicate prepares to resume control of its affairs. It is very unusual, however, for railroad receiverships to be terminated in this way. There are so many conflicting interests that it is practically impossible to devise a plan that will meet with anything like universal satisfaction. Moreover, there are generally certain obstructionists who hope to make something for themselves by placing

as many obstacles as possible in the way of a settlement. To deal with these two classes of individuals it is generally necessary for the reorganization committee or managers to have the property of the insolvent railroad put through a foreclosure sale, and to arrange for its acquisition by a new corporation, which thereafter takes the place of the insolvent one. These arrangements will now be briefly described.

Though the reorganization plan has been approved by the majority, probably a large majority, of the several interests, some individuals, as we have seen, will withhold their assent. The refusal of these individuals to become parties to the plan does not deprive them of their rights, yet neither should they, even though bondholders, be allowed to prevent the carrying out of a plan which has the support of a large majority, and which seems to be just. The solution is a judicial sale of the property by a decree of foreclosure. The security of the bondholders is certain property, which they can seize if their claims are not met when due. During the early stages of the receivership foreclosure was avoided, because the result would have been to place a portion of the property in the hands of one set of creditors, and other portions in the hands of other sets, to the great injury of the public welfare. But a plan of reorganization having been worked out, the only effective way to force it through is to extinguish the interests of the nonassenting security holders by a sale of the property for what it will bring. This usually involves a total loss for the nonassenting stockholders, for their right to a share in the proceeds of the foreclosure sale is generally valueless; and it eliminates the nonassenting bondholders by giving them their proportionate share of the cash proceeds of the foreclosure sale. It does not eliminate, however, the assenting security holders, because they accept securities in the new corporation in exchange for their claims on the old.[1]

In order to prevent injustice being done to the nonassenting security holders by foreclosure sale, a minimum or upset price is fixed by the court. Any one can bid for the property at the sale, but the court will not permit it to be sold for less than

[1] To this statement there may be exceptions. For example, the first mortgage bondholders may enjoy a position so secure that they can effect a recognition of their claims without exchanging their old securities for new ones. Yet even the holders of these bonds may be persuaded to exchange them for a new (and larger) issue of equal security.

the upset price. The reason the court fixes a minimum price is that there is seldom more than one bidder at the sale. This bidder is the reorganization committee (or whatever body has charge of the proceedings at this stage). The reorganization committee is the sole bidder because the court requires that payment for the property be made in cash or in bonds (at their foreclosure value). Since the reorganization committee holds a large majority of the bonds, it has a great advantage over competing bidders, who would have to raise a large amount of cash. The result is that the reorganization committee bids a few dollars more than the upset price, and gets the property. If the bid is $20,000,000, and the nonassenting bondholders own one-tenth of the issue, they receive $2,000,000 in cash,[1] and thereafter they have no claim on the property. It may seem to the reader that the upset price used in the illustration is very low. So it is, yet the property is usually bought subject to certain prior claims, such as prior lien bonds earning their full interest. It may well be, therefore, that $20,000,000 is all that the purchasers can afford to pay for a property that is already burdened with other claims. It is the duty of the court, of course, to establish a fair minimum price.

The foreclosure sale having been confirmed by the court, the property passes into the hands of the new owner—the reorganization committee (or possibly the underwriting syndicate acting for the committee). With this transfer of the property administration by the receivers terminates. The reorganization committee immediately conveys the property to the new corporation that has been organized to take the place of the insolvent one. The new railroad is usually given practically the same name as its predecessor, the term railway being substituted for railroad, or vice versa. The new corporation is free from all the debts of the old except those that are superior in lien to the bonds under which the foreclosure sale was carried out. For example, the purchasers of a railroad foreclosed under a second mortgage are obliged to assume the first mortgage bonds. The securities of the new railroad (or railway) are now distributed among the parties as per the reorganization agreement; and

[1] If a part of the proceeds of the sale has to be used to retire receivers' certificates, the nonassenting bondholders would receive somewhat less than $2,000,000.

in essentials the reorganization may be said to have been completed.

Though a receivership and reorganization seriously injure a railroad's credit, and should be avoided if possible, nevertheless if the reorganization is well devised and drastic it may be the beginning of a period of much increased prosperity for the railroad. The reorganization may well be compared with a radical, but necessary, surgical operation. The shock is severe, but the operation may be necessary to restore the patient to a healthy state.

REFERENCES

CLEVELAND, F. A. and POWELL, F. W.: *Railroad Finance*, chs. 12–14 (1912).

COLE, W. M.: *Accounts*, ch. 15 (1908).

DAGGETT, STUART: *Railroad Reorganization*, ch. 10 (1908).

——: "Recent Railroad Failures and Reorganizations," *Quarterly Journal of Economics*, vol. 32, pp. 446–486 (May, 1918).

DEWING, A. S.: *The Financial Policy of Corporations*, vol. V, chs. 1–6 (1920).

GREENE, T. L.: *Corporation Finance*, ch. 8 (1904).

LOUGH, W. H.: *Corporation Finance*, ch. 29 (1914).

LYON, HASTINGS: *Corporation Finance*, ch. 8 (1916).

MEADE, E. S.: "The Reorganization of Railroads," *Annals of the American Academy of Political and Social Science*, vol. 17, pp. 205–243 (March, 1901).

RIPLEY, W. Z.: *Railroads: Finance and Organization*, ch. 12 (1915).

STETSON, F. L.: *Some Legal phases of Corporate Financing, Reorganization and Regulation*, pp. 153–209 (1917).

CHAPTER XIX

SERVICE

In the preceding chapter it was pointed out that railroad service must be continuous; the trains must continue to run even though the railroad go into the hands of a receiver. In rare cases a railroad that can not be profitably operated may be abandoned, but this now requires the assent of the Interstate Commerce Commission. In still earlier chapters it was pointed out that the service must be nondiscriminatory; to serve shippers without discrimination is one of the sacred obligations of a common carrier. The rendering of satisfactory service, however, involves much more than mere continuity of operation and equality of treatment. The service should also be safe, adequate, and economical. In this chapter we deal with the safety, adequacy, and economy of railroad service, with primary reference to the freight traffic. The discussion applies equally, however, to freight and passenger traffic, the principal difference being the matter of emphasis. Thus, safety is of more importance to passengers than to shippers, and economy is more important to shippers than to passengers. The traveling public demands safety, and in this country comfort and even luxury; it apparently prefers excellence to economy. The shipping public, however, though naturally desirous of safe transportation, is intensely interested in economy. If the cost of transportation is high, freight rates are likely to be high also; and high freight rates increase the prices of the articles shipped, and cut down the market. Shippers, therefore, are more interested than passengers are in the economy with which service is performed. Both groups, however, are equally concerned that the service be adequate; for obviously it matters little that the service be safe and economical if transportation facilities be woefully insufficient or even lacking.

Safety of Service

The first consideration in railway service should be safety. The shippers may be willing to sacrifice safety to adequacy or economy, but justice to the employees who supply the transportation service

and the travelers who make use of it demands that the conditions of employment and travel be made as safe as practicable. The realization of this program is dictated, first of all, by humanitarian considerations. Humanity demands that lives be not needlessly snuffed out, that unnecessary pain and suffering be avoided, and that the families of the victims (whether employees or travelers) be not thrown into poverty because of the unnecessary termination or reduction of the income of the chief breadwinner. The realization of this program is dictated, also, by economic considerations. Accidents that cause death or injury reduce the future product of society, and thus that accumulation of commodities upon which man's material welfare is founded; and accidents that destroy property waste the products of society resulting from human labor in the past. Whether or no it "pays" a railroad company to make operation safe, the people as a whole can not afford to allow human butchery to continue. To realize complete safety is of course impossible; for the operation of trains is a hazardous enterprise at best. But all that it is possible to do within reason should be done.

Desirable though it is that the railroad service be safe, we have failed miserably in this country in making it so. The accident record of American railways taken as a whole has long been bad; indeed the spokesmen for the railroads admit that it has been worse, until quite recent years, than the record of the railways of any other important country.

Statistical evidence of the unsafe character of railway service in this country is abundant, as the result of the investigations and reports of the Interstate Commerce Commission. These reports show that during the period from 1888 (the first year in which accident returns were made to the Commission) to 1922, 294,821 persons were killed in steam railway accidents and 3,457,570 were injured.[1] The number of persons killed in railway accidents during these thirty-five years exceeded by more than five times the number of Americans killed in the World War; and the number of

[1] Interstate Commerce Commission Accident Bulletin no. 87, p. 103 (1923). The figures of the Commission are for fiscal years to June 30, 1916, and for calendar years after (and including) 1916. In adding up totals and computing averages we have assumed that the deaths and injuries during the six months from July 1, 1916 to December 31, 1916 were equal to one-half of the deaths and injuries for the calendar year 1916. The reports of the Commission have not always covered the total mileage of the country. Thus, in 1888 they covered only 93 per cent of the mileage. The figures of the Commission therefore understate rather than overstate the casualties.

persons injured exceeded by more than sixteen times the number of Americans injured during the war. On the average 8,305 persons were killed annually in railway accidents during 1888 to 1922, and 97,397 were injured.

The worst year from the standpoint of deaths was 1907, when 11,839 were killed. Next to the worst year as regards deaths, and the worst as regards injuries, was 1913, when 10,964 were killed and 200,308 were injured. During the two years ending December 31, 1919, covering all but two months of the period of government operation during and after the war, 8,132 persons were killed annually (on the average) and 161,814 persons were injured annually. The best year in a long time was 1921. In that year the number killed was 5,996, which was less than in any year since 1889, and the number injured was 120,685, which was less than in any year since 1901. The good showing in 1921 was due in part, but only in part, to the existence of an industrial depression of unusual severity, which cut down the volume of traffic and in consequence the number of employees.

The foregoing figures have been set forth without endeavor to apportion the blame. Upon closer examination it appears that the showing of the railroads is not so bad as these figures would imply. This is because a large percentage of the deaths is due to the inclusion of trespassers, that is, persons who are killed because they are where they have no business to be.[1] During 1890 to 1922, 142,867 trespassers were killed in railway accidents, and 155,487 were injured.[2] The average number of deaths of trespassers was 4,265 per year, or more than half of the average annual deaths of all persons, including nontrespassers as well as trespassers. To gain a more correct idea of the safety or lack of safety in railroad employment and travel, therefore, it is desirable to summarize briefly the figures for employees and passengers separately.[3]

[1] The term trespassers as used by the Commission embraces not only such persons as in the ordinary acceptation of the term would be regarded as trespassers on railway property, but also pedestrians and travelers (including persons in automobiles and street cars) who, in going on railway property, pass closed gates or other similar barriers, or pedestrians who attempt to pass over or under trains or cars at highway grade crossings.

[2] Interstate Commerce Commission Accident Bulletin no. 87, p. 103 (1923).

[3] The reader should not get the impression that the persons classified as trespassers, employees, and passengers make up the total of the killed. A large percentage of the killed consists of persons legitimately upon railroad property—for example, automobilists crossing railroad tracks not protected by closed gates—yet not employed by or traveling upon the railroad.

During 1888 to 1922, 97,413 employees were killed in steam railway accidents, and 2,890,409 were injured.[1] The annual average was 2,744 and 81,420, respectively. The worst year as regards deaths was 1907, when 4,534 employees were killed; the best year was 1921, when only 1,458 were killed. During 1888 to 1922, 10,779 passengers were killed and 255,538 were injured. The annual average was 304 and 7,198, respectively. It is clear, therefore, that the danger of accident is much greater for employees than for passengers. This can be shown in another way by comparing the deaths and injuries with the number of passengers and employees, as the case may be. For this purpose we may take the statistics for 1922.[2] In that year one passenger was killed for every 4,877,000 carried, and one passenger was injured for every 147,497 carried. To put the matter somewhat differently, in 1922 one passenger was killed for every 176,419,000 miles traveled by passengers.[3] As this distance is equal to a continuous journey at 60 miles an hour, day and night, for 335.7 years (or to 55,286 trips from New York to San Francisco), it is clear that the danger of passengers being killed as the result of travel is comparatively slight.[4] For employees, however, the case is otherwise. In 1922 one employee was killed for every 1,003 employed, and one was injured for every 14 employed. For trainmen in service the case was even worse. Here one was killed for every 424 employed, and one injured for every 10 employed. For yard brakemen the situa-

[1] Interstate Commerce Commission Accident Bulletin no. 87, p. 103 (1923). The Commission records a person as killed only if he dies within twenty-four hours after the accident. If death occurs after twenty-four hours it is recorded as an injury. Injuries, in the case of an employee, include only those incapacitating him from performing his regular duties for more than three days out of the ten immediately following the accident; in the case of any other person, those incapacitating him from following his customary vocation for more than one day. See Interstate Commerce Commission Accident Bulletin no. 87, p. 1 (1923).

[2] Interstate Commerce Commission Accident Bulletin no. 87, p. 103 (1923).

[3] The number of passenger miles in 1922 was 35,813,000,000; the number of passengers killed was 203.

[4] Allowance should be made here for the fact that the Commission records as killed only those who die within twenty-four hours of the accident. This method of recording deaths underestimates the danger of death from railway accidents. As a matter of fact in 1922, 27 passengers died more than twenty-four hours after being injured, which brings the total of deaths due to railway accidents up to 230. This would cut down the passenger miles traveled per passenger killed from 176,419,000 to 155,709,000; the passenger journey per passenger killed from 335.7 years to 296.2; and the passenger trips from New York to San Francisco per fatal accident from 55,286 to 48,796.

tion was unspeakable. One yardman was killed for every 232 employed, and one was injured for every $6^1/_5$ employed.[1] And, let it be noted, 1922 was an unusually good year from the standpoint of safety of operation. Thus in the calendar year 1916, speaking again of yard brakemen, one was killed for every 118 employed, and one injured for every $3^1/_3$ employed.

To increase the safety of railroad operation many laws have been enacted. The states were first in the field, and laws were passed requiring the use of safety couplers, electric headlights on locomotives, and other devices to prevent accidents. The state legislation, however, proved inadequate and frequently harmful. It was inadequate because many states failed to act, and it was harmful because those that did act passed varying and sometimes contradictory laws. The railroads were thus subjected to unnecessary annoyance in the endeavor to comply with the confusing and conflicting regulations of adjoining states. The situation clearly demanded the enactment of federal legislation; and once this came it demanded also that the regulations of the federal government supersede those of the states in the field legally occupied by the national body.

Congress has passed a number of laws dealing with safety. The more important are the Safety Appliance Act, the Federal Employers' Liability Act, the Hours of Service Act, the Transportation of Explosives Act, the Ash Pan Act, the Accidents Reports Act, the Boiler Inspection Act, and the Esch-Cummins Act.

The Safety Appliance Act was passed on March 2, 1893.[2] It was designed to promote the safety of employees and travelers by compelling the railroads to equip their cars with automatic couplers and with power brakes (as distinct from hand brakes). As to couplers it provided that after January 1, 1898, it should be unlawful for any railroad engaged in interstate commerce to haul any car, used in moving interstate traffic, that was not equipped with automatic couplers capable of being coupled and uncoupled without men going between the ends of the cars. Prior to the passage of this law most of the freight cars were connected with one another and with the engine by an iron chain, the end links being attached to the drawheads by iron pins. This link and pin coupler was very unsatisfactory. It subjected the chain,

[1] Interstate Commerce Commission Accident Bulletin no. 87, p. 104 (1923).
[2] 27 Statutes at Large, part I, pp. 531–532.

pins, drawgear, and even car bodies to serious shocks whenever the train was set in motion or came to a stop, and thus limited the size of the train that could be operated with safety. More important, it was very dangerous. In order to couple and uncouple the cars the brakemen had to stand between them; and accidents were frightfully numerous. The defects of this coupler had led to the introduction of automatic couplers, and by 1892 nearly 20 per cent of the freight cars were equipped with them. In the course of time the railroads would have equipped more and more of their cars with these couplers, yet legislation was needed none the less. It was needed, first, to hasten the movement, and, second, to secure the adoption of a standard coupler. As the cars of one railroad pass over on to the lines of another it is necessary to have a standard type of coupler, in order to make sure that the couplers will work. The act of 1893, therefore, made the use of automatic couplers mandatory (with permission to the Interstate Commerce Commission to postpone the effective date of the operation of the clause beyond January 1, 1898, if advisable[1]); and it provided for the establishment by the Commission of a standard height of drawbars for freight cars upon certification thereof to the Commission by the American Railway Association. Subsequently the act was amended on several occasions. Thus, in 1903 Congress amended the act to provide, *inter alia*, that its provisions should apply to all cars [2] used on any railroad engaged in interstate commerce.[3] The Supreme Court held (1911) that this provision empowered the Commission to make regulations with regard to cars used in moving intrastate traffic as well as interstate; for the federal government had ample power to make effective its regulations designed to secure the safety of interstate commerce and those employed in its movement.[4] In a later case (1915) the Court held that the federal government had so fully occupied the field of legislation relating to the equipment of freight cars with safety appliances as to supersede and prevent state

[1] The Commission subsequently postponed the effective date to August 1, 1900. In 1893 the number of casualties from coupling and uncoupling cars was 11,710 (433 killed and 11,277 injured). In the year ending June 30, 1902—the first full year after the effective date of operation—the figures were 2,256 (143 killed and 2,113 injured). In 1902, moreover, the number of employees was 36.83 per cent greater than in 1893.

[2] Also trains and locomotives.

[3] 32 Statutes at Large, part I, p. 943.

[4] 222 U. S. 20–27.

legislation on this subject.[1] The federal government having occupied the field, its regulations were supreme.

With regard to power brakes the Safety Appliance Act of 1893 provided that after January 1, 1898,[2] it should be unlawful for any railroad engaged in interstate commerce to use on its line any locomotive engine, in moving interstate traffic, not equipped with a power brake and appliances for operating the train brake system, or to run any train in such traffic not having a sufficient number of cars equipped with power brakes so that the engineer could control the speed of the train without requiring the brakemen to use the common hand brake. Prior to the passage of this law the braking system of most freight trains consisted merely of hand brakes, applied by brakemen running along the tops of the cars. The hand brakes, it will be realized, were not train brakes; they were car brakes. The effectiveness of this braking system obviously depended on the number of brakemen on the train, on their promptness in responding to the whistle-call for brakes, on their physical strength, and on the mechanical efficiency of the brakes. For a freight train of, say, twenty cars the effectiveness was moderate, but bigger trains than this were not practicable as a rule. Moreover, the hand brake system was very dangerous, especially to the brakemen who had to run along the tops of the cars, frequently in the dark, and less often when the roofs were covered with ice. A great improvement, both from the standpoint of economy and safety, was made with the invention of the air brake, which was successfully applied to passenger trains in the late sixties and to freight trains somewhat later. The air brake greatly reduced the cost of operation by making possible the use of bigger trainloads with substantially the same train crew. It greatly reduced the danger of accidents, especially to the brakemen, but also to other employees and to the passengers. Furthermore, it greatly reduced the time and distance required to stop trains, and thus permitted an increase in their speed. Thus, a train of twelve steel passenger cars, weighing 920 tons and going 60 miles an hour can be stopped with the modern quick-acting air brakes on a level track in 21 seconds and 1000 feet.[3] The work

[1] 236 U. S. 439–448.

[2] The Interstate Commerce Commission, as authorized by the statute, postponed the effective date of this section until August 1, 1900.

[3] Haines, H. S., *Efficient Railway Operation*, p. 366 (1919).

done in stopping such a train would have been sufficient to maintain it at full speed for six miles. It is worth noting that the successful introduction of the air brake was dependent upon the improvements in coupling already described; the link and pin coupler was not strong enough to stand the strain imposed by the more effective power brake. Both of these improvements, in turn, were prerequisite to the enormous trainloads for which the country became famous. The safety appliance legislation was thus justified from the standpoint of "business," as well as from the humanitarian standpoint.

The Safety Appliance Act was later amended (1903) to provide that whenever any train was operated with power or train brakes, not less than 50 per cent of the cars in the train should have their brakes operated by the engineer of the locomotive; and the Interstate Commerce Commission was given authority to increase the minimum percentage of cars in any train required to be operated with power or train brakes.[1] At the present time practically all railroad cars have been equipped with power brakes.

An Employers' Liability Act was passed in 1906,[2] but declared unconstitutional by the Supreme Court in 1908.[3] Three months later Congress passed a new act, meeting the constitutional objections. The act of 1908 (April 22) provided that every railroad while engaging in interstate or foreign commerce should be liable in damages to any person suffering injury while employed by the railroad in such commerce, or in case of death to his representative.[4] The liability of the railroad was for injury or death due in whole or in part to the negligence of any of its officers, agents, or employees, or due to any defect or insufficiency (the result of its negligence) in its cars, engines, appliances, and roadbed. In an action brought against the railroad to recover damages, the fact that the employee may have been guilty of contributory negligence should not prevent recovery, though the damages should be diminished by the jury in proportion to the amount of negligence attributable to the employee. Moreover, in an action to recover damages the employee should not be held to have assumed

[1] 32 Statutes at Large, part I, p. 943.
[2] 34 Statutes at Large, part I, pp. 232–233.
[3] 207 U. S. 463–541.
[4] 35 Statutes at Large, part I, pp. 65–66. This act was upheld by the Supreme Court. 223 U. S. 1–59 (1912).

the risks of his employment in any case where the violation by a railroad of a statute enacted for the safety of employees contributed to his injury or death. Any contract intended to enable the railroad to exempt itself from the liability created by the act was to that extent void.

The significance of this legislation will be better understood if we explain the provisions of the common law upon the subject of employers' liability. Under the common law it was the duty of the employer to furnish his employees with a reasonably safe place in which to work and with reasonably prudent and capable fellow-servants; and he was liable in damages for accidents if he failed to do so. Whenever these precautions had been taken, the employee was deemed to have assumed all the risks incident to the employment, including those arising out of the carelessness or negligence of his fellow-servants; and even when these precautions had not been taken, he could not recover damages if he had himself been guilty of negligence, or if he was aware of his employer's negligence, and had accepted the risk none the less. The fellow-servant doctrine and the doctrines of contributory negligence and assumption of risk had made it exceedingly difficult in practice for injured employees or their representatives to recover damages for injuries or deaths, and had caused much privation and suffering upon the part of railway employees and their families. The Employers' Liability Law, by abrogating the fellow-servant rule and by restricting the application of the doctrines of contributory negligence and assumption of risk, made it easier for the employees or their representatives to recover damages, and therefore made it to the financial interest of the railroads to ensure the safety of their employees.

On March 4, 1907, Congress passed the Hours of Service Act, to go into effect one year after its passage.[1] This act made it unlawful for railroads to permit their employees connected with the movement of trains to remain on duty for more than sixteen consecutive hours; and whenever they had been on duty for sixteen consecutive hours they were not to be allowed to return to duty until they had been off duty for at least ten consecutive hours. There were other provisions of this nature, the hours of telegraph and telephone operators receiving and delivering orders pertaining to train movements being limited even more

[1] 34 Statutes at Large, part I, pp. 1415–1417.

closely.[1] The purpose of this law was to increase the safety of railroad travel and employment by preventing those accidents that were due to the practical exhaustion of overworked employees.

The remaining safety laws may be briefly described. The Transportation of Explosives Act, passed in 1908, made it illegal to transport dynamite, gunpowder, or other explosives in foreign or interstate commerce on any vessel or vehicle operated by a common carrier and carrying passengers for hire.[2] Certain exceptions were allowed, and the transportation of certain other explosives by common carriers was prohibited entirely. The Interstate Commerce Commission was directed to formulate regulations for the safe transportation of explosives.

The Ash Pan Act, passed in 1908, forbade the railroads to use any locomotive in moving interstate or foreign traffic which was not equipped with an ash pan that could be emptied and cleaned without the necessity of an employee going under the locomotive.[3] The act did not apply to electric or oil burning locomotives, upon which an ash pan was not necessary. It was made the duty of the Commission to enforce the act.

The Accident Reports Act, passed in 1910, required the railroads to render to the Commission monthly reports, under oath, of all accidents resulting in injury to persons, equipment, or roadbed, arising from the operation of the railroad.[4] These reports were to be made under regulations prescribed by the Commission, and were to state the nature and cause of the accident. The Commission was authorized to investigate accidents, and to report thereon. The reports of the railroads to the Commission and the investigations of the Commission itself have provided a mass of data with regard to accidents; and the resulting publicity has contributed powerfully toward the progress of the safety movement.

The Boiler Inspection Act, passed in 1911, made it unlawful for any railroad to use a locomotive engine propelled by steam power in moving interstate or foreign traffic unless the boiler and appurtenances thereof were in proper condition and safe to

[1] The act did not apply in case of casualty, unavoidable accident, or act of God; and it did not apply to the crews of wrecking and relief trains.

[2] 35 Statutes at Large, part I, pp. 554–555. Amended by act of March 4, 1921. 41 Statutes at Large, part I, pp. 1444–1445.

[3] 35 Statutes at Large, part I, p. 476.

[4] 36 Statutes at Large, part I, pp. 350–351. This act repealed the act of March 3, 1901, which also provided for reports of accidents to the Commission.

operate.[1] The act provided for inspection of the boilers from time to time under the supervision of a chief inspector, appointed by the President, who was to coöperate with the Interstate Commerce Commission in enforcing the act. Subsequently, in 1915, the provisions of the act of 1911 were made to apply to the entire locomotive and tender and all appurtenances thereof.[2]

In 1920 the Esch-Cummins Act authorized the Commission on its own initiative to require any railroad, after a hearing, to provide itself with safe facilities for performing its car service; and also authorized the Commission to order any railroad to install automatic train-stop or train-control devices, which complied with specifications and requirements prescribed by the Commission.

Entirely apart from these legislative measures in the interest of safety of operation the railroads have taken steps of their own accord to reduce the number of accidents. The railroad officials have been actuated in part by humanitarian considerations and in part by financial. The financial incentives to private action embrace the desire to prevent the destruction of their property; to avoid the payment of damages; to attract passengers and employees by reducing the risks of travel and employment; and to escape public criticism and thus ward off drastic legislation. These incentives were not adequate, since much legislation proved necessary, yet they contributed to the safety of the service. Prominent among the devices adopted by the railroads is the use of the telegraph, and later the telephone, to control train movements. Another device is the use of block signals,—an arrangement for maintaining a space interval between trains. By the close of 1922, 103,000 miles of railway (about two-fifths of the total) were equipped with block signals, many of which were automatic, but most of which were not. The railroads have worked out and adopted a code of operating train rules, which, by virtue of their greater uniformity, have increased the safety of train movement. The railroads have conducted "safety first" campaigns, and thereby saved many lives. They have organized safety committees, composed of officers and employees who coöperate in endeavoring to eliminate accidents due to the failure of men to perform their duties properly. They have, partly of their

[1] 36 Statutes at Large, part I, pp. 913–916.
[2] 38 Statutes at Large, part I, p. 1192.

own accord and partly under the pressure of statutes and municipal ordinances, eliminated many grade crossings, which are a prolific source of accidents, and have protected others by gates, flagmen, signals, and signboards.

Notwithstanding the activity of governments and of railroad managements the annual toll of accidents is appalling, as we showed earlier. There has been some improvement, to be sure, during recent years, yet the record is still a sorry one. This leads us to a consideration of remedies. The first, and most obvious remedy, is to put a stop to trespassing upon railroad property. Of all the people killed during the period from 1890 to 1922 more than half were trespassers; and even as late as 1922 the percentage was over 38. For the benefit of those readers who harbor the notion that most of the trespassers are tramps, it may be said that in 1922 less than one-quarter of the deaths to trespassers were of this unfortunate group. In England and Europe the tracks and station grounds are made difficult of access by fences, gates, and guards; and trespassing thereon is forbidden and punished. As a result casualties to trespassers are rare. In this country, however, the railroad property is ordinarily unfenced, and if the trespasser escapes injury he is usually undisturbed by the police. Upon this subject there is no federal legislation and comparatively little state legislation. Positive legislation and thoroughgoing enforcement are greatly needed.

A second remedy is better protection at highway crossings. Of the 6,325 persons killed in railway accidents in 1922, 1,810, or over 28 per cent, were killed at highway grade crossings. Of these 1,810, 75 per cent were occupants of automobiles or autotrucks. To eliminate grade crossings entirely would be practically impossible, and fortunately is unnecessary. It is practically impossible because of the enormous expense; on December 31, 1922, there were 256,362 grade crossings, of which number 217,630 were unprotected. It is unnecessary because many of the crossings are traversed by comparatively few people. But in the sections of dense traffic many accidents can be prevented by the elimination of grade crossings. It is precisely at these places that the expense is usually the greatest; and the railroads hesitate to incur the expense, since, unlike an investment in bigger locomotives, cars, and bridges, it does not pay. If the public wants grade crossings eliminated it should adopt a policy of compulsion, but it should

also be prepared to pay the price in the form of higher rates, if necessary.

A third remedy is improved and more adequate railway facilities and equipment. For example, many lives are lost in collisions that could be prevented were block signals more universally employed. At the present time block signals are installed on over 100,000 miles of railroad, but this leaves approximately 150,000 miles without this protection. The block signal has been universally used on the passenger lines of Great Britain and Ireland for a generation past; and it should be installed on all our railroads. The Interstate Commerce Commission has recommended for many years the enactment of legislation requiring the use of the block system, but so far without success.

A fourth remedy is the enforcement of the operating rules governing train movements. A code of train rules has been worked out by the American Railway Association in the interest of uniformity, and thus of safety of operation. Were these rules always observed accidents would be much fewer. They are frequently disobeyed, however, by the trainmen, partly because of carelessness and partly because of the multiplicity of their duties. Railway officials in practice find it difficult, because of trade union opposition, to enforce the rules drastically. To meet this situation the Interstate Commerce Commission has frequently recommended legislation requiring the standardization of operating rules and the visiting of penalties upon offenders. In such case, the rules agreed upon should have the approval of the Interstate Commerce Commission. In England, where accidents are much less common than in this country, the operating rules of the railways, when approved by the government, become the law of the land.

A fifth remedy—one that will operate but slowly, if at all—is a change of heart on the part of Americans of all groups, whether travelers, employees, or what not. It can not be denied that a very large proportion of our railway accidents are due solely to carelessness and recklessness, which appear to be national characteristics. As a people we insist upon freedom to "take chances," and we resent the imposition of regulations interfering with our liberty. This attitude is manifested not only on the railroads, but also by the automobilists and the violators of the Eighteenth Amendment. What we need is a greater appreciation of the

value of human life and a greater respect for the mandates of law designed to conserve life and health. We need to develop a greater spirit of caution—to apply the doctrine of Safety First. Unless we make progress along these lines we must expect to have a deplorable accident record, no matter how much money we expend on roadbed, equipment, and the like.

Adequacy of Service

Next in importance to safety is adequacy. There was a time—not so very long ago—when there was little public interest in the question of adequacy of service. The railroad net was being rapidly extended, and transportation facilities were abundant. Indeed the facilities were so abundant in relation to the volume of traffic offered for transportation that the problem of the railroads was not how to handle the traffic, but how to get enough of it to make possible the full utilization of their plants. This competition for tonnage led to rate cutting, and to numerous railroad failures. To prevent the competition from becoming ruinous the railroads entered into agreements, pools, traffic associations, and combinations, hoping by these means to maintain rates notwithstanding the surplusage of facilities. Of recent years, however, the adequacy of the service has become a pressing problem. The growth of the railway plant has not kept pace with the growth of traffic, and the public is now coming to realize that adequate service is fully as important as low rates. When the service was satisfactory the primary concern of the people was that rates be low and nondiscriminatory. But it is now apparent that rates can fall so low that the service suffers. And as between inadequate rates and poor service, on the one hand, and adequate rates and good service, on the other, a discriminating public will unhesitatingly choose the latter. However, there can be no guarantee that the railroads, if allowed to charge adequate rates, will give good service; and accordingly there naturally arises a demand for the regulation of service as well as of rates.

The situation as to the adequacy of service is best shown statistically by means of the car surplus and car shortage figures. The publication of these figures was begun by the American Railway Association in January, 1907, and has been continued ever since, with certain intermissions. On January 2, the date of the first report, the net shortage of freight cars—the net shortage is the differ-

ence between the total shortage and the total surplus—was 85,493; and by February 6 it was 137,847. This was probably the greatest shortage ever experienced up to that time. For some ten years the country had been unusually prosperous, and adequate provision had not been made to handle the enormous volume of traffic. The explanation was partly the length of time required to provide greatly enlarged facilities, and partly the failure to foresee the long continued duration of the period of prosperity. In the fall of 1907, however, a panic broke out; and by December 24 there was a net surplus of 208,586 cars. By April 29, 1908, the surplus had increased to 413,338. Though the surplus of cars did not long remain at this figure—indeed this figure was not again reached for over ten years—none the less there was a surplus from the close of 1907 to the fall of 1916, save for a few short periods now and then. In fact, during 1908, 1910, 1911, 1914, and 1915 there was no net shortage at any time. Down to the fall of 1916, therefore, we may say that the service was reasonably adequate, judged, that is, on the basis of car supply.

Since the fall of 1916, however, car shortages have been very common. As a result of the tremendous demands of the Allies for food supplies and war materials a car shortage was felt in September. Two months later (November 1) the shortage amounted to 114,908 cars, and with the entrance of the United States into the war on April 6, 1917, it reached 145,449 on May 1, a new high point. The shortage continued throughout the remainder of 1917 and until May 1, 1918, after which date, despite the fact that the country was at war, there was a small surplus. Upon the cessation of hostilities in November, 1918, the surplus rapidly increased, making a new high record on March 1, 1919. In the fall of 1919 traffic picked up again, and there was a continuous shortage (except for one month) until December, 1920. In 1921, the country was in the midst of a period of industrial depression, and there was a surplus every month, a new high record being set on April 1 with a surplus of 495,781 cars. Taking the period from September, 1916, to December, 1921, as a whole, there were 34 months of net shortages and only 30 months of net surpluses. During most of 1922 there was a surplus, but in the week ending October 15, 1922, a new high record for car shortages was set at 152,034 cars. During the early months of 1923, that is, until the middle of May, there was an unbroken record of car shortages. It is clear, therefore,

that the adequacy of car service has become during recent years a major problem in the field of railroad transportation. To be sure, during the summer and early fall of 1923 the railroads handled a record breaking volume of freight without a net shortage, nevertheless, if we may judge the future by the past, a recurrence of car shortage from time to time is certainly to be anticipated.

The question may be raised whether the railroads should be expected to have at all times a supply of cars adequate to take care of the demand. The answer, we believe, is in the negative. Business, as is well recognized, moves in cycles; and the demand for cars fluctuates correspondingly. If the railroads are to avoid car shortages entirely in periods of unusual prosperity, they will have huge car surpluses in periods of reduced activity. Car surpluses mean, of course, that capital is tied up in an investment that brings in no return, and the economic loss thus sustained will as a rule be borne by the public, in the form of higher rates. The law therefore wisely recognizes that the obligation of a railroad to provide cars is merely an obligation to provide enough to take care of normal requirements. For example, the railroads can not be expected to have enough coal cars to move the year's supply of coal when, as in the summer of 1922, a coal strike lasting over four months compels the railroads to hold approximately half their coal equipment in idleness. Neither can they fairly be expected to have sufficient cars to move the grain crop with no shortage whatsoever, in view of the fact that the greater part of the crop is delivered to them within a comparatively few weeks; indeed, during no year of record have orders for grain cars been fully supplied during the months of September, October, and November.[1] Nevertheless, such frequent car shortages as the country has suffered from since the fall of 1916 do not constitute a satisfactory performance of the carriers' service obligations. It will be worth while, therefore, to examine the leading causes of car shortage.

(1) The most obvious cause of car shortage is an insufficiency of cars. This insufficiency, in turn, may be due to various factors. It may be due to a failure to foresee the increase in the volume of traffic. Thus, in 1907 the railroads carried 1,796,000,000 tons of revenue freight as compared with 728,000,000 in 1897, an increase of over 146 per cent in ten years. Would it be surprising if the railroad officials did not believe it likely that traffic would increase

[1] *Report of the Joint Commission of Agricultural Inquiry*, part III, p. 262.

at such a rapid pace, and consequently failed to make provision therefor? The insufficiency may be due, also, to the inadequacy of railroad revenues. There have been several occasions during the recent years of car shortage when railroad revenues were abnormally low, and when therefore a conservative policy of buying appeared to be desirable. The insufficiency may be due, also, to the inability of car manufacturers to deliver, as was the case during the war.

(2) A second cause of car shortage is the failure to utilize effectively the cars that are available. It may be that the existing supply of cars would be quite sufficient if they were utilized effectively, but because they are not, a shortage appears. Clearly it would not be correct to ascribe such a shortage to an insufficiency of cars. There are many reasons why the utilization of cars is not fully effective. One is that shippers frequently hold the cars unduly long. It is the duty of shippers to load and unload promptly, but they do not always do so. Not infrequently the consignee deliberately uses the car as a warehouse, calling for the goods only as he needs them. To penalize the undue detention of cars by shippers the railroads, with the approval of the Interstate Commerce Commission, charge the shipper demurrage. The shipper is usually given 48 hours in which to load or unload the car, as the case may be, and after the expiration of this "free time" he is required to pay so much per day as demurrage. The purpose of these charges is not to recompense the railroad adequately for the enforced idleness of the car, but to induce the shipper to release it promptly for further use; for it is not the business of the railroad to supply shippers with warehouse facilities. Unfortunately, however, the demurrage charges are not always high enough to accomplish their purpose. A second reason for the ineffective utilization of cars is the practice of reconsignment. The privilege of reconsignment permits a shipper who has consigned a shipment to a particular point to reconsign it to another point, either before or after it has reached the place to which it was originally billed. The privilege is a valuable one to the shipper, because it enables him to ship on a through rate instead of on a combination of locals. The privilege is especially valuable to shippers located at some distance from the consuming markets, because it permits them to divert their shipments en route, and thereby get into better markets. The privilege is valuable, also, to commission

men and brokers, who frequently buy carloads of produce without having effected a sale of them, and who hold the cars in the terminals for a couple of days while their salesmen find buyers for the produce, whereupon the cars are reconsigned to their ultimate destination. The practice of reconsignment originated in the competitive struggle of the early days, and the railroads found it difficult to restrict the privilege. Nowadays the railroads charge for the privilege, but not enough to discourage the shippers from making use of it. Though the reconsignment privilege is of great benefit to shippers, it must be recognized that it ties up the freight cars and also places an added burden on the yards and terminals. Among the other causes of ineffective utilization are delays in repairs, because of inefficiency, strikes, etc., and the tendency of the railroads to work for a long haul over their own line rather than a shorter haul over some other line.

(3) A third cause of car shortage is inadequacy of motive power. If sufficient locomotives are not built, or if they are worked so intensively for a long period that they break down and have to be sent to the shops in unusually large numbers, there will not be enough locomotives to haul the cars. Inadequacy of motive power contributed powerfully to the car shortages that were so common during the war period.

(4) A fourth cause of car shortage is the inadequacy of terminal facilities. In this case it is not the insufficiency of cars that produces a shortage, but the inability to bring about their regular, orderly movement. No matter how many cars and locomotives a railroad may have, it can handle no more tonnage than can be put through the yards and terminals. If terminal facilities are inadequate, the storage tracks may be full and the switching tracks so crowded that loaded trains may have to be taken to interior yards in order to make room for daily train movements. Such a traffic situation may make it necessary for the railroads to place an embargo upon freight shipments, until the tangled threads can be unraveled. An embargo should be recognized, however, as but a temporary palliative. "The resort to them is like obstructing a drainage-system in time of freshet, only to overflow the fruitful harvests farther back." The inflow and outflow of traffic should proceed in more orderly fashion, and to bring this about there may be required a considerable enlargement of the plant at terminals and elsewhere. Failure to do so gives rise to car shortage.

(5) A fifth cause of car shortage is the failure to secure an adequate supply of efficient laborers. This failure may be due to a number of reasons. As illustrative we may mention the scarcity of labor during the war, partly because of the draft and partly because of the high wages paid in the war industries; and also the shopmen's strike of 1922, during the course of which many cars and locomotives were held out of service awaiting repairs.

The foregoing are the leading causes of net car shortage; they provide an explanation for the failure of the total supply of cars to equal the total demand for them as indicated by shippers' requisitions. Yet even though the total supply of cars is adequate, so that there is no net shortage, there is almost always a shortage. No matter how large the net surplus of cars—the net surplus is the difference between the total surplus and the total shortage—there is practically never a time when there is not a shortage somewhere. The shortage is sometimes very small, frequently amounting to less than 1,000 cars out of a total of over 2,300,000. Yet frequently it is fairly large, even when there is a net surplus. How does this happen?

One reason is that railroad equipment is specialized to a considerable extent; and therefore not interchangeable. The leading types of cars as classified by the Interstate Commerce Commission are box, coal, flat, stock, refrigerator, and tank cars. There may be simultaneously a net surplus of cars and a shortage of any one type. Obviously refrigerator cars can not be used to haul coal; and tank cars can not be used to haul stock. Another reason is the seasonal bunching of certain kinds of traffic at certain periods. The harvesting of the grain crops leads to a heavy demand for box cars during the fall months. The railroads assemble large numbers of these cars at the shipping points in preparation for the movement, and as a rule these cars are sufficient to haul a large proportion of the crop. After the grain is harvested the cars are loaded and dispatched to their destination. Pending their return, however, a shortage temporarily develops. The coal traffic supplies an even better illustration because of the specialized character of coal-carrying equipment. The demand for coal is seasonal, being greater during the winter than during the summer. If the consumers of coal would order it earlier in the year shortages of coal cars might disappear, but usually the consumers wait until winter approaches before filling up their

bins. If the winter proves to be unexpectedly severe, and particularly if the industrial demand is large because of prosperous conditions, there will be a shortage of coal cars. The fact that there may be a surplus of refrigerator cars, tank cars, or even box cars, will avail little. The probability of coal car shortages will be reduced to a certainty if we continue to have prolonged coal strikes, which prevent the normal movement of coal from taking place. Still another reason for car shortage is poor management. There may be quite enough cars of every type to take care of the traffic, but they may not be where they are wanted. The cars belong to hundreds of railway corporations, which are more interested in the welfare of the shippers that they serve than they are in the welfare of shippers generally. Therefore, it is not uncommon to have a surplus of cars on one road and a shortage on another.

The existence at practically all times of a shortage of cars, either of a particular type, or at a particular place, or to a particular shipper, and the periodical recurrence of net shortages bring to the fore the problem of distribution. Since there are not enough cars to go around, how shall the available supply be distributed? The problem has two major phases: first, the distribution of cars among the railroads; second, the distribution of cars among the shippers.

There was a time when the distribution of cars among the railroads was not a problem. Each railroad had its own cars, and they did not pass off its rails. Through freight was transferred from the car of the originating railroad to the car of the connecting one, in order that each railroad might retain its own equipment. This primitive arrangement was abandoned long ago, however, in the interest of economy and efficiency of service. To avoid the unnecessary expense of "breaking bulk" at junction points the cars have long been allowed to go through to destination. To control the interchange of cars among carriers and to provide a satisfactory basis of payment for the use of "foreign cars," the railroads developed various rules. The code of rules governing the interchange of cars provided that foreign cars should be returned promptly to their owners. Had these rules been faithfully observed the problem of distribution of cars among the railroads would have been no problem at all. In fact, however, the rules were regularly disobeyed. If the

foreign cars could not be loaded back to the owning road with a profitable shipment, they were usually loaded indiscriminately to any destination. In consequence they drifted from New York to California, and from the Great Lakes to the Gulf of Mexico, wherever, indeed, trade dictated; and perhaps they did not return to the home road for several years. This arrangement worked greatly to the detriment of certain roads, particularly those that originated more tonnage than was delivered to them by connecting lines. Moreover, these roads could not protect themselves by the purchase of additional equipment, because this equipment would soon pass off their lines, and stay off if there was a shortage of cars elsewhere. Though the roads that appropriated the cars of other railroads were sometimes criticized as "car thieves," the Interstate Commerce Commission summed up the prevailing attitude of the railway men in the statement that "car appropriation between carriers does not seem to be regarded as dishonorable nor even looked upon with disfavor."

Payment for the use of "foreign" cars is regulated by a code of *per diem* rules. At first payment was on a mileage basis, but this proved unsatisfactory because the owning road received nothing when its cars were not moving. The borrowing road could let shippers use the cars as warehouses and could use its own cars in the carriage of revenue producing traffic. This was not fair to the owner of the equipment, so in 1902 the present *per diem* arrangement was substituted. The daily rental was fixed in 1902 at twenty cents, but by agreement among the railroads it was increased from time to time, being $1.00 per day in 1922. The *per diem* charge was regarded as a penalty to induce the return of the cars to the owners, and it has this effect when the supply of cars is adequate. Yet even at the increased *per diem* now in effect it is more profitable in time of shortage to pay the *per diem* in order to obtain the profit to be made through the use of the car. As a result an injustice is done to those roads that aim to possess a sufficient number of cars. They hold them in dull times; and other roads hold them, in whole or in part, in brisk times. Some roads, indeed, own no cars at all or practically none, but rely upon other railroads to furnish them with the necessary equipment.

As one way of meeting this situation the suggestion has been made that there be formed a freight car pool, to which pool each railroad shall be compelled to furnish its fair proportion of the

total; and that this pool distribute the cars where they are needed most, as is now done by the Pullman Company. The pool might include all the freight car equipment, or merely certain types, such as box cars. For years there has been in effect what amounts to a box car pool, but this pool has gone practically unregulated. It is said that the pool should be continued because of its obvious advantages, but that it should be given a definite organization and ample authority to prevent the abuses already described. It obviously is an economic waste to return a box car empty to the owning road when a load can be had for the car in some other direction. On the other hand, it is unjust to the owning road to deny it the use of its own equipment when it is needed. To meet this situation a pool of these cars, with provision for ample supply by each road and equitable distribution to each, has been recommended. Under such a pool, if efficiently managed, there need be no shortage on any road so long as there is a surplus on others. Such a pool of all equipment was effected under government operation of the railroads during the war, and it has much to commend it in normal times. To date, however, nothing definite has been accomplished.

The second phase of the problem of distribution is the apportionment of cars among shippers. A railroad's supply of cars being short, upon what basis shall the cars it has be distributed among the shippers on its line? We may illustrate by the case of bituminous coal, which is much the most important item of freight, and which has given rise to numerous controversies before the Interstate Commerce Commission and the courts. The demand for soft coal, as we have seen, is seasonal, being greater in the winter than in the summer. The coal is carried in specialized equipment, and therefore a shortage of coal cars can not be offset by a surplus of other cars. There are quite enough coal cars to supply the demand were the cars fully utilized throughout the year, but since they are not, a shortage in the period of greatest demand is not uncommon. Shortages might be avoided, to be sure, if the railroads had sufficient cars to handle the peak load, but they do not, and can hardly be expected to. Therefore, until some remedy is found for this perplexing condition, recurring coal car shortages may be anticipated. The problem is: how allot such cars as there are among the shippers. The matter is highly important, because it is not practicable for coal operators to store

their output. Therefore the volume of their output depends on the quantity that can be loaded on to cars from day to day.

The allotment of cars is naturally made on the basis of mine ratings. Each mine on the line of a particular railroad is given a "rating"; and in a period of car shortage is supposed to receive such a percentage of the cars available as is equal to the proportion that its rating bears to the total. Thus, if a mine has a rating equal to 1 per cent of the total mine ratings on a particular railroad or division thereof, it should receive daily 1 per cent of the cars available. How are the mine ratings arrived at? The two methods most commonly used are the physical capacity and the commercial capacity (measured by actual shipments). There is controversy as to which is the best method, and no rule of general application has yet been adopted.

The principal controversy, however, relates not to the manner of determining the mine rating, but to the treatment of "assigned" cars. There are four classes of coal cars: (1) cars belonging to the railroad, and employed in the carriage of commercial coal, as distinct from coal to be used as railway fuel; (2) cars belonging to the railroad serving the mine, and employed in the carriage of coal to be used by it as fuel; (3) cars belonging to other railroads, and delivered to the railroad upon whose line mines are situated, for the purpose of being loaded with coal for use as fuel by the owning road; (4) private cars belonging to shippers. The last three classes are called "assigned" cars. The early practice of many railroads was to apportion the cars available for commercial loading to the shippers upon the basis of their mine rating, without taking into account whether or not a particular mine had, in addition, the use of assigned cars. As the phrase goes, the assigned cars were not counted against the mine. This arrangement obviously worked to the advantage of the mines that received assigned cars. The railway officials justified the practice on the ground that they could buy coal for fuel on more favorable terms if permitted to assign their cars to particular coal mining companies. These companies, being assured a reasonably adequate supply of cars, could operate more regularly and economically, and could therefore afford to sell coal at a lower price. The railway officials further pointed out that coal was indispensable to railway operation, and they maintained that they should be allowed to get it as cheaply as possible. As regards the private

cars it was claimed that the owner of these cars was entitled to their use. The assigned car rules of the railroads worked injury to the producers of commercial coal who owned no cars of their own, and they naturally protested vigorously against the rules.

The controversy came before the Interstate Commerce Commission in a number of cases, especially after the passage of the Hepburn Act in 1906, which authorized the Commission to regulate the distribution of coal cars in times of car shortage as a means of prohibiting undue discrimination. The Commission held in 1907 and 1908 that railway fuel cars (whether foreign or not) and private cars should be given to the mines to which they had been assigned, but that they must be counted against the distributive share of these mines. If the assigned cars exceeded or equaled the distributive share of a mine, it might keep them, but it could have no additional cars; if, however, the assigned cars did not equal its share, it should be given only such additional cars as were necessary to make up its distributive share.[1] These decisions protected the railroads in the purchase of their fuel, by permitting them to assign as many cars as they pleased; but they increased the supply of cars available for those not receiving assigned cars. Thus the situation remained for a good many years. Recently, however, the Commission has modified its position, admitting that "the rule evolved in the earlier decisions was not the fruition of ripe experience." After a general investigation of assigned cars for soft coal mines, it ordered, on June 13, 1923, that after September 1 all coal cars should be distributed by the railroads to all mines in each division on a pro rata basis.[2] Assigned cars should be counted against a mine the same as unassigned cars, and no mine should receive more than its pro rata share of the total number of available cars, irrespective of whether the cars were assigned or not. The Commission found that this ruling was necessary to prevent discrimination against the mines not receiving assigned cars. Against this decision four commissioners (out of eleven) vigorously dissented. The dissenting opinion

[1] See Hocking Valley case, 12 I. C. C. Reports 398–411 (July 11, 1907) and Traer case, 13 I. C. C. Reports 451–459 (April 13, 1908). For an important decision of the Supreme Court upholding the Commission, see Illinois Central Case, 215 U. S. 452–478 (January 10, 1910).

[2] 80 I. C. C. Reports 520–589. Subsequently the Commission postponed the effective date of its order, and still later it reopened the case for further hearing.

maintained that the practice of assigning cars is necessary to enable the railroads to secure an adequate fuel supply at reasonable prices and to enable them to avoid the confiscation of commercial coal shipments in periods of shortage.

The foregoing discussion establishes the existence of recurring car shortages, and during these shortages the inequitable distribution of cars among both the railroads and the shippers. To meet these defects legislation has been enacted. At this stage this legislation will be described very briefly. In 1917 Congress passed the Esch-Pomerene Act.[1] This act made it the duty of the railroads to establish and enforce reasonable rules and regulations with respect to car service, which was defined to include the movement, distribution, exchange, interchange, and return of cars used in the transportation of property. It also authorized the Interstate Commerce Commission, after hearing, to establish reasonable rules and regulations with respect to car service, including the compensation to be paid by any railroad for the use of cars not owned by it. Three years later Congress passed the Esch-Cummins Act.[2] This law made it the duty of every railroad to furnish adequate car service; and authorized the Commission to require any railroad to provide itself with adequate facilities for performing its car service. With reference to the distribution of coal cars the act provided that it should be the duty of every railroad to make just and reasonable distribution of cars for the transportation of coal among the coal mines served by it. During any period when the available supply of cars did not equal the requirements of the mines it was the duty of the railroad to apply just and reasonable ratings of such mines, and to count against the mine every car furnished to it for the transportation of coal. The enactment of these laws was calculated to eliminate or reduce car shortages and unfairness in the distribution of cars among the railroads and shippers. Whether they will eliminate car shortages doubtless depends upon the adequacy of railroad revenues, but the Esch-Cummins Act, as we shall later show, contained provisions specifically designed to make them adequate.

[1] Cf. p. 440.
[2] Cf. p. 558.

Economy of Service

We come finally to the economy of service. Whereas the showing made by the railroads with regard to safety has been poor, and with regard to adequacy has usually been good, except for recurring periods of car shortages, especially of late years, the showing with regard to economy of service has, speaking generally, been excellent. The railroads, on the whole, have been operated at low costs and with a notable degree of efficiency. Though economy is difficult to appraise, it has been generally agreed, certainly until recent years, that the railroads of the United States stood in the forefront in this regard. Moreover, the benefits of economical operation were passed on, for the most part, to shippers and consumers in the form of lower freight rates, thus conducing to the cheapness and abundance of commodities. It is only of late years, with rising prices and wages, that the economy of the service has seriously been called into question, principally by the groups that desired lower freight rates or higher wages. At the present time, therefore, there is widespread interest in the economy of service, and especially of the freight service. The freight service is much more important than the passenger service, both to the railroads and to the public. The freight traffic produces about seven-tenths of the gross revenues of the railroads, whereas the passenger traffic produces only about two-tenths.[1] Since the people contribute what the railroads receive, it is clear that the public has a much greater stake in the economy of freight transportation than of passenger transportation. Moreover, social welfare is much more contingent upon the cheap transportation of goods than upon cheap travel, important though the latter be for the diffusion of education and culture and for the reduction of narrow provincialism.

In measuring the economy of freight service the test most commonly employed is the average trainload. The trainload is computed by dividing the ton mileage [2] of revenue freight by the sum of freight and mixed train miles. An increase in the ton mileage without a corresponding increase in the train mileage is,

[1] The mail and express traffic account for most of the remainder.

[2] The ton mileage is the number of tons moved one mile. If 1,000,000 tons are moved 100 miles, on the average, the ton mileage is 100,000,000. In 1920 the ton mileage of revenue freight for class I railroads (those having annual operating revenues in excess of $1,000,000) was over 410,000,000,000.

other factors remaining the same, evidence of more economical operation. This is because ton miles are units of railway revenue, while train miles are units of railway expense. The more units of freight carried, the greater the revenue;[1] the fewer units of trains hauled, the less the expense. Obviously, therefore, an increased ton mileage not accompanied by a correspondingly greater train mileage spells economy. To state the matter in a different and less complicated way, an increase in the trainload conduces to economy, since the cost of handling a train does not increase in the same ratio as its size. The bigger the trainload, the less as a rule is the wage bill and the fuel bill per ton hauled. As wages and fuel comprise much the greater portion of the movement expenses, the economy of large trainloads is clear. There are limitations, to be sure, on the size that the trainload may profitably attain, as we shall shortly indicate; but for the present we may fairly take the average trainload as an excellent standard for measuring the economy of operation.

An analysis of the trainload figures brings out a steady and remarkable increase in the size of the average trainload in this country. The figures by five-year periods from 1890 to 1920 are as follows:[2]

Year	Tons
1890	175
1895	189
1900	270
1905	322
1910	380
1915[3]	483
1920[4]	646

In thirty years the trainload increased from 175 tons to 646, a gain of 269 per cent. This is truly a remarkable showing, and one that will impress all but the most unreasoning critics. The

[1] Assuming other factors, including rates, to remain unchanged.

[2] *Statistics of Railways in the United States* (published annually by the Interstate Commerce Commission). The Commission has revised the basis of computation somewhat from time to time, and therefore the foregoing figures are not entirely comparable. However, the changes made have not been great; and the figures above accurately portray the general trend.

[3] The figures for 1890-1915 are for the fiscal year ending June 30.

[4] Calendar year.

year of greatest progress, both absolutely and relatively, was the fiscal year ending June 30, 1916, when the trainload increased from 483 tons (in 1915) to 545 tons, a gain of 62 tons (over 12 per cent). During 1920 (or earlier) the average trainload in a number of foreign countries was as follows: Canada, 457; China, 329; India, 269; Germany, 239 (1913); Austria, 195 (1913); Japan, 190; Switzerland, 154; France, 154 (1913); United Kingdom, 145; New South Wales, 137; South Australia, 88; and Brazil, 59 (1915).[1] It is clear, therefore, that the number of tons per train is much greater in the United States than elsewhere. However, not a great deal of weight is to be attached to this comparison, because of the marked diversity in conditions here and abroad. The conditions favorable to a large trainload are the production of heavy raw materials and their carriage for long distances. In this country over half of the traffic consists of the products of mines; and this means that our roads carry principally heavy and fairly homogeneous articles. No valid comparison that throws light on economy of operation can be made between the average trainload in the United States and in (say) England. The latter country specializes in the production of highly elaborated manufactured products to be carried only a short distance by rail, and obviously it is not profitable for the English railroads to haul their traffic in huge trainloads like our own. Yet it is only fair to say that the railroads of the United States have taken advantage of the favorable conditions, and have developed trainloads that are the envy of the railway officials of foreign countries.

The trainload figures given above are averages. They include all the freight—local and through, branch line and main line, high grade and low grade, less than carload and carload. They fail entirely, therefore, to give an adequate conception of the accomplishments of the railroads in individual hauls of carload shipments of low grade freight on through, main line traffic. Thus, though the average trainload in 1920 was only 646 tons, trainloads of low grade, long haul freight aggregating 4,000 to 6,000 tons were not at all uncommon. Moreover, the figures are averages for all the railroads of any importance, and they there-

[1] Bureau of Railway Economics, Consecutive no. 170, p. 65; no. 100, p. 77; and private correspondence. These are the only countries given by the Bureau. The trainload for the United States is given as 560 tons. This is the figure for the calendar year, whereas the figure of 545 tons that we have used is for the fiscal year.

fore fail to bring out the accomplishments of particular roads operating under especially favorable conditions. Thus, whereas the average trainload in 1920 was 646 tons, the average for certain railroads was as follows: Bessemer and Lake Erie, 1,753; Virginian, 1,718; Duluth, Missabe and Northern, 1,614; Pittsburgh and Lake Erie, 1,544; Hocking Valley, 1,515. These roads are all predominantly coal or iron ore railroads, and therefore able to concentrate their shipments in large trainloads. The possibilities in the way of concentration of freight are strikingly illustrated by the experience of the Virginian Railway. This road was built specifically for the purpose of carrying coal at a minimum cost from the West Virginia mines to tidewater; and nine-tenths of its traffic consists of bituminous coal. In 1921 it was hauling in regular service trains aggregating 7,000 to 8,000 tons of coal. On May 26 of that year, as an experiment, it ran the biggest train on record. A locomotive weighing 898,300 pounds (449 tons), the biggest in existence (except for nine others owned by the same railway), hauled 100 cars, each weighing 120 tons (the biggest in existence), making a trainload of 12,000 tons. Counting the weight of the cars as well as of the cargo, the trainload aggregated 16,000 tons, a record that may well stand for some time.

It goes without saying that the railroads as a whole will probably never come within even striking distance of the impressive averages reached by the Bessemer and Lake Erie and the four other railroads mentioned above. There are definite limits to the growth of trainloads; and it may be that we have already approached these limits. What are the limitations? One is imposed by the nature of the traffic. Only low grade, long haul freight can economically be concentrated in large trainloads. Articles that are light in proportion to their bulk require a relatively large amount of car space. The only way in which a large trainload of such articles can be secured is to load a large number of cars, and this places an excessive burden on the locomotive. Again, local traffic is not profitably carried in huge trainloads. Such trainloads can be hauled only by powerful, expensive engines; and it is a waste of capital to employ a huge engine for hauling local traffic. Another limitation is the slower speed of large trains. Slow trains block the traffic, especially if passenger service is frequent, and thus prevent shippers from securing as speedy

and frequent service as business considerations demand. Moreover, slow trains are likely to increase the wage bill. Up to a certain point this is not true; for the heavy train, slow though it be, may well haul more freight per labor-hour than a light one. Yet sooner or later the point is reached at which the slow speed imposes an obstacle, and especially if overtime for the crews is paid for at a higher rate than regular time. Again, big trainloads require better roadbed, stronger bridges, and heavier rails; and the cost of these may exceed the saving in wages and fuel resulting from the use of larger trainloads. It is therefore not solely a question of economy in train movement; other factors must be taken into consideration as well. A large trainload will prove profitable, then, only when more is gained by it than is lost. The matter of the economic size of the trainload is thus one that requires careful study, but it is undoubted that "a discriminating concentration of traffic conduces very greatly to economy of operation."

The concentration of traffic in large trainloads has been made possible only by the introduction of numerous improvements in equipment and plant. A prerequisite has been the development of high power locomotives. Coincidently with the increase in the trainload since 1890 there has gone on a steady increase in the size, weight, power, and efficiency of locomotives. In 1890 there were no locomotives weighing 200,000 pounds; nowadays locomotives weighing twice this much are common. Even in the ten years from 1910 to 1920 the average tractive power of locomotives increased by one-third. The high water mark as regards weight was reached with the locomotives of the Virginian Railway, referred to earlier. These locomotives, of which there were ten, weighed 898,300 pounds, or almost 450 tons. The economies of large locomotives were tersely stated by James J. Hill as follows: "Receipts are by the ton and passenger mile; expenses are by the train mile." The reasons why the operating cost per ton mile is less for large locomotives than small were given more specifically in pointing out the advantages of large trainloads. It is important, however, to bear in mind that the size of the locomotive should be related to the work it is called upon to perform. Heavy locomotives cost more to build, to operate, and to maintain than smaller ones; and they do more damage to the roadbed, rails, ties, and bridges. They are more economical, therefore, only if they do enough additional work

to offset the added expenses that they cause. From this it follows that the most profitable size of locomotive will vary for different railroads, and for different traffic on a given railroad. It is the practice in this country to give each freight locomotive a "rating" that represents the maximum tonnage it can haul over a stretch of line. The rating depends, of course, on many factors, such as grade, speed, and weather. With the use of these ratings it is possible to distribute locomotives of varying size and power over the road so as to secure the maximum service out of them. This is a fundamental principle of economical operation; for it is obviously uneconomic to use locomotives that are larger than is necessary for the load they have to pull. The Virginian Railway with a traffic consisting almost entirely of coal moving down grade to tidewater may find a locomotive weighing 450 tons economical, but for typical railroad hauls locomotives of this size would be nothing else than folly.

Other improvements in equipment or plant that have contributed toward, or even been indispensable to, heavier trainloading are bigger freight cars (their advantages will be described shortly); the substitution of steel rails for iron, and the use of heavier rails from time to time; stronger roadbed and bridges; the reduction of grades and the elimination of curves; and the use of automatic couplers and power brakes. All the foregoing improvements promote economy in operation, but unfortunately much of the ground gained by the railroads in this way is frequently offset by the enormous cost of acquiring city terminals adequate to handle the increase in traffic that has gone on hand in hand with the increase in the trainload. The Pennsylvania Railroad expended over $110,000,000 some ten years ago in improving its terminal facilities in New York City, and the New York Central spent almost as much. The more the population grows, the higher land values become; and the higher the land values, the greater the cost of improvements and of operation. In this direction there lies little hope of relief.

A second test of the economy of freight service is the average carload. This is computed by dividing the ton mileage of revenue freight by the loaded freight car mileage. The figures by five-year periods from 1901 to 1920 are shown on the following page.

Year	Tons
1901 [1]	16.5
1905	18.1
1910	19.8
1915 [2]	21.1
1920 [3]	26.7

During these nineteen years the average carload increased by 61.8 per cent. The increase is considerable, though not nearly so great as for the trainload. This being the case, we may conclude that the increase in the trainload has been due in part to the hauling of heavier carloads, but also to the haulage of more cars per train. The carload figures being averages, individual railroads have naturally attained a much heavier loading. The maximum carloading was reached by the Bingham and Garfield Railway, a subsidiary of the Utah Copper Company. This short line had an average carload in 1920 of nearly 68 tons. The Virginian Railway, as we might expect, had the highest average of any of the leading railroads, coming second with over 51 tons. The other four railroads mentioned earlier as having the largest trainloads all had carloads averaging over 42 tons. These five roads are predominantly coal or iron ore carriers; indeed practically all, if not all, of the roads with the largest carloads are of this character. This explanation serves further to explain why the average for all the railroads is so much below the best performance. In so far as the freight handled is heavy and packs well, a big carload is feasible; if, however, the freight is bulky, a lighter carload is necessitated by the limitations of space. It is clear, therefore, that comparisons of individual railroads from the standpoint of trainloads and carloads as a means of measuring economy of operation must be made with caution. Moreover, in estimating progress for the railroads as a whole allowance must be made for changes in the character of the traffic from year to year. Even after making due allowance for such factors, however, it remains true that the railroads have made decided and commendable progress in train and car loading.

The increase in the average carload has been due principally to the use of larger cars. Fifty years ago the average carrying capac-

[1] The figures before 1901 are not available.
[2] The figures for 1901–1915 are for the fiscal year ending June 30.
[3] Calendar year.

ity of box cars was about 10 tons. In 1902, when the Interstate Commerce Commission first began to publish detailed statistics, the average was 27 tons. In 1910 the figure was 33, and in 1920 it was 37.3. In 1920 the average capacity of all cars was 42.4 tons, as compared with 28 in 1902 and 36 in 1910. Obviously the increase in the size of the freight car must be related to the use to which it is to be put, must be related to the commodity or commodities that it is to haul. Thus, box cars are much smaller as a rule than coal cars; the average capacity of the latter in 1920 was 49.4 tons, or more than one-third greater. The necessary correlation between size and use may be illustrated by the Virginian Railway. This road is able to use cars of 120 tons in long trains because the cars move on a slightly descending grade to tidewater. That it finds 120 ton cars economical is no indication whatever that any considerable number of other railroads would have the same experience. Box cars, though much smaller than coal cars, are larger, on the other hand, than refrigerator cars; the average capacity of the latter in 1920 was only 31.8 tons.

The increase in the average carload is to be regarded as an achievement because of the superior economy of large cars. These economies may be briefly stated. (1) The bigger the car, up to a certain point, the lower the ratio of dead load to paying load. Mr. Haines, formerly president of the American Railway Association, has illustrated this as follows.[1] A wooden box car with a capacity of 20 tons weighs about 11 tons; one of 30 tons weighs about 15; one of 40 tons weighs about 17; and one of 50 tons weighs about 19. The ratio of dead load to paying load thus progressively declines from 55 per cent (for a 20 ton car) to 38 per cent (for a 50 ton car). Wooden cars, however, are going out of use, though they still comprise nearly half of all the box cars. We may, therefore, illustrate by steel underframe box cars, the type usually built nowadays. A car of this type with a carrying capacity of 30 tons would weigh 19.1 tons, and would cost $1,025 to build, if built according to the American Railway Association standard of several years back.[2] According to this same standard a car with a carrying capacity of 40 tons would weigh 20.7 tons, and would cost $1,100; and a car with a carrying capacity of 50 tons would weigh 21.5 tons, and would cost $1,145. Comparing the thirty ton car and the fifty ton

[1] Haines, H. S., *Efficient Railway Operation*, p. 119 (1919).
[2] Ibid., p. 119 (1919).

car, an increase in carrying capacity of $66^2/_3$ per cent is accomplished with only a 12½ per cent increase in dead weight and a 17 per cent increase in cost. (2) An increase in the size of cars reduces the number that is required to handle a given volume of tonnage. The reduction in number reduces the cost of the equipment, since the cost is not in proportion to the capacity. The reduction in the number of cars also lightens the work of the car service departments. (3) The reduction in the number of cars makes possible an increased trainload, and thus the running of fewer trains. This, in turn, permits a saving in the wages of the train crews. (4) There is a saving in the cost of repairs per ton hauled. (5) There is a saving in track room in yards and terminals. A 40 ton car occupies but little more track space than a 20 ton car, but it holds twice the load. This is an important consideration in many terminals where space is limited and land is expensive. (6) There is a saving in switching charges per ton of revenue load, since the greater cost of switching larger cars is not in proportion to the increase in the load of the car. (7) There is a reduction in the frictional and atmospheric resistance to trains. On the other hand, there are definite limits to the possible increase in the size of freight cars. The capacity of a freight car depends on both its strength and its dimensions. The larger the car, the greater the strain upon its parts; and though the parts can be strengthened somewhat to permit the use of larger cars, the stage is eventually reached when this ceases to be economical. More important, however, is the limitation imposed by dimensions. The larger cars are longer, taller, and wider. So far as length is concerned, there are no impedimenta; but overhead and at the sides there are encountered sooner or later obstructions that can not be overcome except by the practical reconstruction of the railroad.

Along with an increase in the size of cars has gone an improvement in the materials out of which they are made. A generation ago all freight cars were made of wood. In 1897 the steel car was introduced, the Pittsburgh, Bessemer and Lake Erie purchasing in that year 600 all steel 50 ton cars. The successful use of these cars soon led to the construction of many additional steel cars. At present two-thirds of the freight cars are either all steel or steel underframe. The all steel cars are principally coal cars; the steel underframe cars are principally box cars and coal cars. Though wooden cars still constitute about one-third of the total, not many of them

are now being built; and probably in time they will go the way of the iron rail. Steel cars have the following advantages. (1) They can be made bigger, thus increasing the ratio of paying load to dead load. (2) They last longer, both because they are more durable and because they are less likely to be destroyed. (3) They are safer; and by reducing accidents they diminish the amount the railroads have to pay for damages to persons and property. (4) They cost less to maintain.

To deal adequately with the economy of freight service we should make use of numerous other indices; it is not possible to measure operating economy adequately through the use of one or two tests. Among the numerous statistical units into which inquiry should be made are the various mileage figures, for example, the cost of fuel and maintenance per locomotive mile, the cost of maintenance per freight car mile, the average mileage per freight car, and the average ton mileage per freight car. This enumeration is not intended to be complete, but merely illustrative. Limitations of space prevent us from going further into this matter; and we must be content to record the conclusion that the use of these tests will establish the fact that the railroads, though not operated with the maximum economy, are none the less operated with commendable economy. Upon this point the testimony of Mr. W. M. Acworth, the leading English authority, is suggestive, despite the fact that the testimony was given a number of years ago. Said Mr. Acworth: "It has always been my opinion that in actual economy of operation the railways of the United States are first in the world. In the number of tons per car, cars per train; in the fullest utilization of locomotives; in the obtaining of the greatest measure of result for each unit of expenditure, they are not equaled by the railways of any other nation."[1]

The showing of the railroads as to economy of operation largely explains why private operation of railroads endures, and why there is a decided absence of regulative legislation appertaining to economy. While there is much legislation with regard to safety and some with regard to adequacy, there is almost none designed to enforce economy. To be sure, the Clayton Act of 1914 contains salutary provisions calculated to enforce honesty in the construction, operation, maintenance, and financing of railroads, and the relation between honesty and economy is naturally close. Also,

[1] Interview in New York *Evening Sun*, February 1, 1911.

the Esch-Cummins Act, in directing the Interstate Commerce Commission to establish rates that will yield the railroads a fair return upon the value of their property, stipulates that this mandate shall be applicable only in the event of economical and efficient management of the properties; but the Commission is not given positive authority to require economical and efficient management. This is as it should be, so long as the railroads make a good record from the standpoint of economy. The railroad business is a highly technical one, and the railroads should be as free as is consonant with the public interest to manage the details of operation. If conditions become such that it is necessary for the Commission to determine the size of locomotives and cars, the kind of fuel to be employed, and similar matters of administration, we might as well take the next logical step, and own the railroads as well as operate them.

If the railroads are to administer their properties economically and efficiently they must have the wholehearted coöperation of their labor force. Without such coöperation any efforts that they individually or collectively may make will prove futile. Unfortunately of late years the relations between the railroads and their employees have not been such as to evoke this indispensable coöperation to the extent that is desirable and essential. To a discussion of the labor problem, therefore, we now turn.

REFERENCES

Basford, G. M.: "Vitalizing Locomotives to Improve Operation," *Railway Age*, vol. 70, pp. 1227–1231 (May 27, 1921).

Byram, H. E.: "Principles and Practices of Car Service Regulation," *Annals of the American Academy of Political and Social Science*, vol. 76, pp. 25–33 (March, 1918).

Cunningham, W. J.: "Scientific Management in the Operation of Railroads," *Quarterly Journal of Economics*, vol. 25, pp. 539–562 (May, 1911).

Dunn, S. O.: *The American Transportation Question*, ch. 8 (1912).

Johnson, E. R. and Van Metre, T. W.: *Principles of Railroad Transportation*, chs. 5, 11–15 (1921).

Ruggles, C. O.: "Railway Service and Regulation in Port Terminals," *American Economic Review*, vol. 11, pp. 438–446 (September, 1921).

Sakolski, A. M.: *American Railroad Economics*, chs. 5–7 (1916).

Vanderblue, H. B. and Burgess, K. F.: *Railroads*, chs. 13–20 (1923).

CHAPTER XX

LABOR DISPUTES

The railroads normally employ about 2,000,000 men (and women), who receive in the aggregate about $3,000,000,000. This large force comprises workers of many sorts, including engineers, firemen, conductors, brakemen, telegraphers, signal men, switchmen, shopmen, freight handlers, station employees, clerks, maintenance of way men, and others. Some of the groups are highly organized; others are not. All of them, however, are engaged in an industry that is vital to the national well-being, an industry indeed that is practically essential to the nation's existence. Important as it is that the railroads receive adequate earnings, in order that the industry may be enabled to function effectively, it is equally important that the employees receive adequate wages and enjoy satisfactory working conditions, in order that they may be induced to work wholeheartedly. The fair treatment of the railway employees is demanded not only by abstract considerations of justice, but also by the practical requirements of the shipping and consuming public. The people want adequate and economical transportation service; and there is no reason to believe that they can secure it regularly unless wages and working conditions are such as to attract to the railroad industry capable and willing workers. Yet of even greater importance to the people than adequate and economical service is uninterrupted service. Whatever else happens the railroads must run. Even though receivership results (from inadequacy of rates or other cause), operation must none the less continue. Likewise even though wages or working conditions be unsatisfactory, the trains must continue to run, lest the people perish. Whether or no dissatisfied railway employees should be compelled to operate trains against their will, by some means or other the transcendent public interest in continuity of railroad transportation must be safeguarded. It is this necessity of a continuing flow of transportation service that makes the railroad labor problem so fundamental, and that makes it so essential to devise some machinery for settling labor disputes.

Railroad Labor Organizations

In the early days of railroading disagreements and disputes between the railroads and their employees were not of great public concern. Each employee negotiated as to his own rate of pay, and argued his own case in the event of a disagreement of any kind. Such a thing as concerted action by the men through an accredited spokesman was almost unknown. There were some local railroad unions, to be sure, yet no effective organization of the employees was achieved until the Civil War period. The engineers were the first to organize, forming in 1863 the Brotherhood of Locomotive Engineers.[1] The train conductors followed in 1868 with the Order of Railway Conductors.[2] The Brotherhood of Locomotive Firemen and Enginemen was formed in 1873, and the Brotherhood of Railroad Trainmen in 1883. The former includes the firemen and such of the engineers as elect to remain in the firemen's organization, despite their promotion to the engineer's cab; and the latter includes the train brakemen and baggagemen, and also the conductors, brakemen, and switch tenders in yard service. These four organizations comprise the leading train service brotherhoods. In addition to these there are a dozen other railroad unions of importance, including the Order of Railroad Telegraphers, the Brotherhood of Railroad Signalmen, the United Brotherhood of Maintenance of Way Employees and Railway Shop Laborers, the Brotherhood of Railway Carmen, and the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees. Included in the dozen also are several national unions which are composed in large part of railway laborers, but are not confined to them. Among these are the International Association of Machinists, and the International Brotherhood of Electrical Workers. All of the sixteen railroad unions (except the four train service brotherhoods) are members of the American Federation of Labor, an organization through which numerous trade unions of all kinds, nonrailroad as well as railroad, are federated for common action in the interests of labor. The Railway Employees Department of the Federation endeavors to settle disputes between the

[1] The name of the union when first organized was the Brotherhood of the Footboard, but since 1864 it has been called the Brotherhood of Locomotive Engineers.

[2] This was not its name when first organized, but it is not necessary to burden the reader with such historical details.

railroad unions, especially those arising out of the much vexed question of the extent of their several jurisdictions, and also to promote common action by them against the railroads when necessary to enforce the demands of the unions for changes in pay or working conditions. It was the Railway Employees Department that conducted the strike of the shopmen in the summer of 1922, a discussion of which will be found in chapter XXVI.

The train service brotherhoods, because of their strength and importance, deserve especial mention. These four brotherhoods, though they retain their separate organizations and differ in some of their policies, nevertheless have many characteristics in common. All of them have long carried on mutual insurance activities, and all derive much of their present strength from the effective rendering of this service. The operation of trains is a dangerous occupation at best, and any association that can offer favorable insurance rates derives thereby a considerable element of strength. Each of the four brotherhoods assumed sooner or later the task of negotiating with the railroads as to the wages and working conditions of the employees comprised within its particular union. The assumption of this added duty was opposed at first by many of the union members, especially by the conductors and firemen, yet they all came to regard it as a fundamental policy of the brotherhoods. Opposition came also from the railroads, which were reluctant both to recognize the unions and to accept the principle of collective rather than individual bargaining, yet they also were forced by the logic of events to withdraw their opposition. All of the four brotherhoods have remained independent of the larger labor federations, such as the American Federation of Labor. The failure of the brotherhoods to affiliate with the Federation has probably been due to their belief that such an affiliation would not greatly increase their strength, while it would greatly enhance the danger of their being drawn into controversies not directly concerning them. The train service brotherhoods have sometimes been regarded as the aristocrats of the labor world, and their viewpoint has not always been altogether working-class. The train service brotherhoods have been independent not only of larger labor federations comprising nonrailroad unions, but they have even been independent in considerable measure of each other, though of recent years they have acted together to a greater degree. The engineers, for example, felt that it would be inexpedient to pool their

issues with the younger and less powerful train service organizations. The engineers, being the strongest organization, would gain least from such an alliance, and being the oldest employees, would run the greatest risks. As a rule, therefore, especially until recent years, their policy was to work primarily for the interests of the engineers, and to let the other train service brotherhoods look after the interests of their members. The train service brotherhoods have all deprecated the use of the strike, and especially of the sympathetic strike (one called out of sympathy for some other group of employees). The engineers conducted a serious strike on the Chicago, Burlington and Quincy in 1888, but since that date have conducted no far-reaching strike (though a nation-wide one was actually ordered, in conjunction with the other train service brotherhoods, on three recent occasions—1916, 1917, and 1921). The conductors have been equally conservative; indeed, during the early years the brotherhood forbade strikes, and individual members of the union were forbidden to strike under penalty of expulsion. The brotherhood even went so far as to encourage strike breaking, but this policy embittered the other brotherhoods, and was abandoned. Like the engineers, the conductors ordered strikes in 1916, 1917, and 1921, yet in each case the strike was called off at the last moment. The moderation of the train service brotherhoods in the use of the strike weapon, particularly during the earlier period, is probably due to the fact that their large membership and strategic position enabled them to secure the greater part of their demands without actually tying up the transportation service, and thus arousing a hostile public opinion, which insists upon the operation of the trains, whatever may be the merits of the controversy. None of the train service brotherhoods has insisted upon the closed shop, that is, upon the employment by the railroads of union men only. The brotherhoods offer so many advantages to their members that each of them has attracted to the union most of the employees that are eligible (the percentage varies from approximately 65 per cent in the case of the trainmen to over 95 per cent in the case of the engineers, and accordingly it is not believed necessary to insist upon the adoption of the closed shop. All of the brotherhoods have been subjected to the competition of other unions. The first serious competition came from the Knights of Labor, which was created in 1869, and which hoped to induce all laborers, no matter what their trade or occupation, to join the or-

ganization. The Knights of Labor was very strong during the early and middle eighties, but its influence rapidly declined after 1886. The second serious competition came from the American Railway Union, which was organized in 1893 for the purpose of bringing all the railroad employees into one organization. This union threatened for a time the very existence of the brotherhoods, yet the failure of the Pullman strike conducted by the Railway Union in 1894 disrupted the organization, and strengthened the hold of the several brotherhoods. Finally, to bring this discussion to a close, all of the brotherhoods are conservatively managed and well financed. The ownership and investment of large insurance funds, and in some cases even the operation of banks, have tended to inculcate in the members a spirit of conservatism, while the reputation of the brotherhoods for holding sacred their contracts with the railroads has made the latter more agreeable to dealing with them, and also more willing to make the concessions demanded by them.

As the result of their strength, their strategic position, and their conservative leadership the brotherhoods by the end of the twentieth century had succeeded in realizing a goodly portion of their aims. They had secured the general recognition of the unions, and of the right of the unions to bargain collectively for the employees. They had secured the adoption of working agreements and uniform wage schedules on most railroads, the acceptance of the principle of promotion according to seniority (length of service), and the ten-hour day. They had thus effected the removal of most of the abuses of the "old order of railroading." [1] There remained for realization during the twen-

[1] Hoxie, R. F., *Trade Unionism in the United States*, pp. 111–112, enumerates the causes of their success as follows: "(1) the confining of the scope of the organization and activities of economic interest to the craft, where conditions, needs, and problems are common to all and common rules are possible; avoiding disruptive social, political, and religious considerations; (2) having as the basis of their membership a picked class of workers unusually intelligent and skilled; (3) the stressing of organization, and being able to organize the craft so thoroughly that there is no need to bother about undercutting or the establishment of the closed shop, in order that their rules may be standardized for the entire group; (4) having the membership under thorough control by highly centralized authority and by stressing insurance; (5) being moderate, conservative in their attitudes and demands, businesslike in their action (respect for contract), backing all this up with a reserve fund that allows them to wait; and (6) being in an especially strong strategic position where they can paralyze the whole industrial process if their demands are not conceded."

tieth century, as the brotherhoods conceived it, an increase in wages and a revision of the rules governing employment, the standardization of wages and working conditions on all the railroads of particular territories, and when that had been achieved, their standardization on all the railroads of the country; and the adoption of the eight-hour day. The endeavor to enforce these demands upon the railroads led to numerous disputes, especially after 1907, to a brief discussion of which we shall shortly turn. Before doing so, however, it is advisable to describe briefly the machinery created by the government at one time or another for the purpose of settling amicably disputes between the railroads and their employees.

Federal Legislation Dealing with Labor Disputes

The record begins with the arbitration act of October 1, 1888.[1] This act made provision for voluntary arbitration of controversies between transportation companies (engaged in interstate commerce) and their employees, and for the investigation of such disputes at the discretion of the President of the United States. If either party to the controversy proposed in writing to submit the controverted points to arbitration, and if the other party accepted the proposition, each was to select an impartial and disinterested person, and these two were to select a third; and these three persons were to constitute a board of arbitration. The board was to make an investigation, and to announce publicly its decision. Neither party was required to accept arbitration, nor to abide by the award; reliance was placed solely on the force of public opinion. The act provided also for an impartial investigation of the dispute. The President was authorized, upon his own motion, or upon the application of one of the parties to the controversy, or upon the application of the governor of the state, to create a temporary commission for the purpose of examining into the causes of the controversy and the best means of adjusting it. As soon as the commission had completed its report, which was to be made public, it was to be dissolved.

This act is significant because it was the first federal law dealing with railway labor disputes, and not because it accomplished anything. In fact during the ten years the act was in force no use whatever was made of its arbitration provisions, and only

[1] 25 Statutes at Large, pp. 501–504.

one investigating commission was established. This was in connection with the famous Pullman strike of 1894. On May 11 of that year the employees of the Pullman Palace Car Company, a manufacturer of sleeping cars with a plant near Chicago, went on strike. The Pullman employees were members of the American Railway Union, the organization that threatened the existence of the brotherhoods in the middle nineties. The Railway Union, the president of which was Eugene V. Debs, subsequently the Socialist Party candidate for the Presidency of the United States, actively supported the strikers. Mr. Debs, the Chicago common council, and the Chicago Civic Federation, composed of prominent business men and other leading citizens, requested the Pullman Company to arbitrate the controversy, but it refused, alleging that there was nothing to arbitrate. Thereupon, on June 21, the Railway Union in convention voted unanimously that no member of the union should handle Pullman cars after June 26, unless the Pullman Company meanwhile consented to arbitration. The company refused, and the boycott began on June 26. When it appeared that railroad employees who refused to handle Pullman cars were being discharged, the Union determined to prevent the running of trains, as well as of Pullman cars, hoping in this way to induce the railroads to compel the Pullman Company to grant the demands of the strikers, or at least to consent to arbitration. The boycott of the Pullman cars thus resulted in a railway strike, which interfered seriously with interstate commerce and the movement of the mails. Accordingly on July 2 a United States circuit court issued a comprehensive injunction, forbidding Mr. Debs and "all other persons whomsoever" from in any way interfering with any of the business of the railroads named in the bill. The injunction was disobeyed, whereupon President Cleveland, without being requested to do so by the Governor of Illinois, sent federal troops to Chicago to enforce the order of the federal court. On July 17 the officers of the American Railway Union were imprisoned for disobedience of the court injunction. This action, combined with the exercise of military force, effectively broke the strike. Mr. Debs and the other officers of the union appealed to the Supreme Court, but without success. The Court held that under the Constitution power over interstate commerce and the transportation of the mails is vested in the national government; that the entire strength of the nation can be used

to enforce in any part of the land the full exercise of all national powers; and that no voluntary association of individuals, in fact, not even a state, can obstruct the freedom of interstate commerce and the transportation of the mails.[1] This outcome of the strike led to the disruption of the union, and gave the ascendancy once more to the less radical train service brotherhoods.

Coming now to the application of the act of 1888 to this strike, the President appointed an investigating commission as contemplated by the act. How little was gained thereby, however, is indicated in the fact that the commission was not appointed until after the strike had already been settled, and therefore the report of the commission, made some three months later, contributed in no way to the settlement of the controversy. The commission made recommendations for further legislation, but none was forthcoming until four years later.

On June 1, 1898, there was passed the Erdman Act,[2] repealing the act of 1888. The principal difference between the new act and the one it superseded was that the Erdman Act introduced the principle of mediation and conciliation, and dispensed with the investigating commission provided for in the act of 1888. The Erdman Act retained the principle of arbitration, but in much amended form.

The act provided that whenever a controversy arose between a railroad engaged in interstate commerce and any of its employees engaged in train operation or train service (engineers, firemen, conductors, trainmen, telegraphers, and switchmen), the chairman of the Interstate Commerce Commission and the Commissioner of Labor, upon the request of either party to the controversy, should endeavor, by mediation and conciliation, to effect an amicable settlement. If these efforts at mediation and conciliation failed—there was no compulsion upon the parties to request mediation, or to accept it if tendered—the two government officials were directed to endeavor to bring about an arbitration of the controversy. If the offer of arbitration was accepted, the railroad was to name one arbitrator, the employees (through their labor organization or otherwise) were to name a second, and these two were to choose a third. If an agreement upon a third arbitrator could not be secured within five days,

[1] 158 U. S. 581–582 (May 27, 1895).
[2] 30 Statutes at Large, pp. 424–428.

the federal commissioners were to name him. In submitting the controversy to the board of arbitration the railroad and the employees were to agree: (1) that the award of the board would be made within thirty days from the appointment of the third arbitrator, and that meanwhile the status existing immediately prior to the dispute would not be changed: Provided, that no employee would be compelled to render personal service without his consent; (2) that the award would be final and conclusive upon both parties, unless set aside for error of law; (3) that the parties would faithfully execute the award, and that it might be enforced in equity so far as the powers of a court of equity would permit: Provided, that no injunction or other legal process would be issued to compel the performance by any laborer of a contract for personal service; (4) that employees dissatisfied with the award would not by reason of such dissatisfaction quit the service of the employer before the expiration of three months without giving thirty days' notice, nor would employers, because of such dissatisfaction, discharge their employees before the expiration of three months without thirty days' notice; (5) that the award would remain in effect for one year, and that meanwhile there would be no new arbitration upon the same subject. The act (in section seven) declared it to be unlawful during the pendency of arbitration for any employer, party to the arbitration, to discharge the employees parties thereto except for inefficiency, violation of law, or neglect of duty; and for the organization representing the employees to order a strike against the employer, or for the employees to unite in or abet a strike: Provided, that the employer might reduce the number of his employees when business necessities required such reduction. A violation of section seven was to subject the offender to liability for damages.

The first attempt to invoke the provisions of the act was made in 1899 by the conductors and trainmen in and about Pittsburgh. On this occasion the railroad officials were unwilling to accept either mediation or arbitration. Thereafter, until December, 1906, no further attempt was made to utilize the provisions of the act. Beginning with this date, however, the machinery of the act was frequently employed; indeed from 1906 to July, 1913, when the Erdman Act was replaced by the Newlands Act, "there was no serious strike, actual or threatened, in which one of the parties did not seek settlement under its terms." Dur-

ing the life of the act sixty-one cases were either mediated or arbitrated. Most of these cases were handled by mediation, though the arbitration cases involved, on the average, a larger number of employees. Both the railroads and the employees took the initiative in invoking the provisions of the act, the railroads usually in the more important cases, and the employees in the less important. No award made in an arbitration proceeding was repudiated by either party, and only one appeal from an award was taken to the courts. The Erdman Act therefore proved to be of distinct service in promoting the peaceful settlement of labor disputes, of which there were a number of considerable magnitude after 1907. A description of these disputes, to which we now turn, will bring out concretely the usefulness of the Erdman Act, as it will also disclose its weaknesses and the need of further amendments.

Description of Some Labor Controversies

During the nineteenth century controversies between the railroads and their employees had generally been limited in scope. A particular brotherhood, say the Brotherhood of Locomotive Engineers, would present a number of demands to some railroad, and force what concessions it could. Similar demands would then be presented to other railroads, until finally wages or working conditions would be improved perhaps throughout the entire country. By this means much was accomplished, as stated earlier, yet much remained to be achieved. In the brotherhoods' view, wages were too low and not sufficiently standardized, hours were too long, and many rules regulating working conditions were unsatisfactory. Bearing in mind the development of railroad combination at the very end of the nineteenth century, the prospects of securing the realization of these aims by the use of the former methods seemed remote. Accordingly there was developed early in the twentieth century the plan of a "concerted movement" by a particular brotherhood on all the railroads of a given territory. There were three such territories—(1) western territory, including all the railroads west of the Illinois Central Railroad [1] and the western shore of Lake Michigan; (2) eastern territory, including all railroads east of this dividing line and north of the Chesapeake and Ohio Railroad; and (3) southern territory, including

[1] The Illinois Central was in western territory.

the railroads east of the Illinois Central and south of the Chesapeake and Ohio.[1] For the sake of convenience we shall refer to these territories as the western, eastern, and southern. In these concerted movements the Order of Railway Conductors and the Brotherhood of Railroad Trainmen usually acted together. In course of time there was evolved a concerted movement by all the train service brotherhoods on all the railroads of the country, without regard to a territorial grouping. Through such developments the magnitude and seriousness of the railroad labor problem was brought home to the people, and the importance, nay the necessity, of a solution was abundantly demonstrated.

The first noteworthy concerted movement was undertaken by the conductors and trainmen in western territory in 1907. In that year approximately 42,500 employees presented their demands to thirty-six railroads, having an approximate mileage of 101,500, or over 40 per cent of the mileage of the country. A committee representing the railroads met with a committee representing the employees, but an agreement could not be reached. Thereupon the railroads, availing themselves of the provisions of the Erdman Act, requested mediation. The employees consented to mediate, and as a result an agreement, favorable to the employees, was reached within a week.

Having been successful in the West, the conductors and trainmen planned to launch a similar movement in the East, but the outbreak of a panic in October, 1907, made it seem advisable to postpone the movement for a couple of years. By the fall of 1909, however, conditions were deemed favorable, and accordingly representatives of the conductors and trainmen on the eastern railroads prepared a standard scale of wages, based on the wage scale in the West.[2] This scale was presented to the railroads in eastern territory early in January, 1910, with a request that the railroad representatives negotiate jointly with the brotherhood representatives. Up to this time no important concerted movement had been undertaken in the East, and the railroad managers declared that differences in physical and traffic conditions made standardization impracticable. Thereupon the brotherhoods presented

[1] The Chesapeake and Ohio was in southern territory.

[2] On the controversy between the railroads in eastern territory and the conductors and trainmen, see Cunningham, W. J., *Quarterly Journal of Economics*, 25, pp. 139–160.

uniform demands to the railroads individually. Without exception the demands were rejected. Railroad officials conceded that the increased cost of living justified some increase in wages, but claimed that the wages proposed were unreasonable. Confronted with resistance at every point the brotherhoods determined to concentrate their attack on the Baltimore and Ohio. This road was willing to compromise, but not to concede all that the conductors and trainmen demanded. A strike seemed imminent. The railroad suggested arbitration, but this was refused. The railroad then requested mediation under the Erdman Act, to which the employees finally agreed. The outcome of mediation was a distinct victory for the men. Though the Baltimore and Ohio had the highest wage scale in the East, except that of the Pennsylvania Railroad, it agreed to advance these wages still further. The Baltimore and Ohio wage scale was next forced upon the New York, New Haven and Hartford Railroad and the Boston and Maine Railroad. The New York Central, which was next approached, refused to pay the Baltimore and Ohio scale. It maintained that wage rates which were fair on the mountain divisions of the Baltimore and Ohio would be unreasonably high if applied to the level stretches of the New York Central. The wage rates being based on mileage traveled, a wage rate that presupposed low train speeds would be excessive on a line where high train speeds were possible. But the employees stood their ground, and again a strike seemed imminent. Three times the New York Central proposed arbitration, and each time it was rejected. Finally the railroad made a fourth proposal that was so fair that the employees had no choice but to accept it. The railroad agreed to accept as arbitrators Mr. E. E. Clark, then of the Interstate Commerce Commission, but formerly Grand Chief of the Order of Railway Conductors, and Mr. P. H. Morrissey, then President of the American Railroad Employees' and Investors' Association, but formerly Grand Master of the Brotherhood of Railroad Trainmen. The award of the arbitrators applied the Baltimore and Ohio scale to the New York Central, making a few exceptions in the case of the long, fast runs. Within a comparatively short period the Baltimore and Ohio wage scale was accepted by the New York Central lines west of Buffalo; the Delaware, Lackawanna and Western; the Delaware and Hudson; the Erie; the Pennsylvania; and a number of smaller roads.

As a result of these protracted negotiations the standardization of the wages of conductors and trainmen in eastern territory was achieved. Standardization, it may be observed, does not mean one uniform rate for all conductors or trainmen irrespective of the character of the service performed. For example, the wage rate per train mile for passenger service may be different from the rate in freight service; and the rate per train mile on through runs may be different from the rate on local runs. What standardization does mean is that "a workman on one division will receive as much for his skill and services as any other workman performing similar service, whether it be in the same locality, or on another division or road." The weakness of standardization, as Professor Cunningham has observed, lies in the fact that its scope includes only the *rates* of pay, making no allowance for differences in physical and operating conditions.[1] "The rate per mile is the same, whether it be made on a single track, mountainous branch line or on a level, four-track road, where it is possible to run 100 miles in very much less time than on a single track." Standardization, therefore, though it abolished some inequalities, created new ones. That the employees were able to force the universal acceptance of this principle in eastern territory well testifies to the strength of their organizations.

The second important concerted movement (the one just described was intended to be a concerted movement, but negotiations were in fact carried on with the railroads individually) was that of the firemen in western territory early in 1910. This controversy involved about 26,000 men employed on railroads having a mileage of 110,000. The railroads requested mediation, which was accepted by the employees. Through mediation all the disputed points were adjusted, except the matter of wages; and this the parties agreed to submit to arbitration. The award of the arbitrators (rendered in June) was favorable to the employees, though it did not give them all that they had asked.

During this same year (1910) the engineers and firemen, acting separately, presented demands to the railroads in eastern territory, but not in a concerted movement. The outcome was not the same in every case, yet on the whole the results were regarded as fairly satisfactory, the engineers, for example, receiving an average increase in pay of about 10 per cent. When it subsequently ap-

[1] *Quarterly Journal of Economics*, 25, p. 152.

peared that the conductors and trainmen had received an average increase of about 20 per cent, the engineers became dissatisfied. Formerly they had received higher wages than the conductors and trainmen, but they now found to their dismay that this differential had been wiped out in some cases, and had been markedly reduced in others. There was little that could be done at the moment, though they were to return to the fray in less than two years. Meanwhile at the close of 1910 the engineers began a concerted movement against the railroads in western territory for increases in pay and changes in the rules. The demands were made by about 24,600 engineers on railroads having a mileage of 115,000. Again the railroads requested mediation, as the result of which a settlement was soon effected. The engineers had asked for a 27 per cent increase in wages, and the railroads had offered 6 per cent. A compromise was made on slightly over 10 per cent.

The outcome of the negotiations in the West encouraged the engineers to renew the controversy in the East.[1] Early in 1912 they presented demands for increases in wages, a standardization of wage rates, and changes in rules. These demands were intended to restore the differential formerly enjoyed over the conductors, and to raise the wage scale above the level for engineers in the West. The movement was a concerted one, being brought by over 30,000 engineers against 52 railroads. These railroads owned 25 per cent of the country's mileage, and being located in the section of dense traffic carried nearly half of the country's freight. The railroad managers maintained that the wages demanded were unreasonable, that the granting of them would involve similar concessions to the other brotherhoods, and that standardization was impracticable. Acting as a unit they refused to grant the demands. Negotiations between the parties were broken off, and a strike seemed inevitable. At the last moment the federal mediators offered their services, which were accepted. The action of the mediators was extra-legal, since the Erdman Act made no provision for mediation except on the request of one of the parties to the controversy, but it prevented a strike from taking place. The mediators were unable to effect a settlement,

[1] On this controversy, see Cunningham, W. J., *Quarterly Journal of Economics*, 27, pp. 280–294, and Senate Document no. 493, 64th Cong., 1st Sess., pp. 197–209.

but they did succeed (in April, 1912) in inducing the parties to arbitrate the dispute. The railroads, even before mediation had been invoked, had suggested that the dispute be referred to the Interstate Commerce Commission, but this proposal had not met with the approval of either the engineers or the Commission. The railroads were unwilling, however, to arbitrate under the provisions of the Erdman Act, on the ground that the subject was too complex to be intrusted to three arbitrators, only one of whom could be regarded as impartial. Accordingly it was agreed that the railroads should choose one arbitrator, the engineers one, and these two should select five neutral arbitrators. In case the two could not agree—they could not—the neutral arbitrators were to be chosen by the Chief Justice of the Supreme Court and the federal mediators. The award of the arbitrators was to be final.

The arbitration board made its award in November, 1912. On the whole its findings were unfavorable to the engineers. The board recognized the principle of a minimum wage in passenger, freight, and switching service, and it revised some of the rules in favor of the engineers. Yet it allowed only slight increases in wages, and it denied the demand for standardization, on the ground that local differences in the service rendered should find reflection in the rates of pay. Moreover, the board, emphasizing the view that the interest of the public in railroad labor controversies was greater than the interest of either the railroads or the employees, recommended the creation of federal and state wage commissions, with power to settle labor disputes. This proposal, which amounted to a recommendation of compulsory arbitration, was exceedingly distasteful to the engineers, who were (and still are) determined to retain the strike weapon. From the standpoint of the public, however, the recognition of the paramount interest of the whole people in continuity of transportation service was welcome.

Even before the engineer's award had been made all of the railroads in eastern territory had been presented (June, 1912) with a set of demands by the firemen. The railroads proposed the creation of an arbitration board similar to that employed in the controversy just settled, but the firemen, having in mind the engineers' experience, insisted upon arbitration under the Erdman Act, whatever its defects. The railroads maintained that the

issue was too fundamental to justify leaving its determination to one neutral arbitrator, for this was inevitably the practical outcome. The firemen then prepared to strike, whereupon the railroads yielded. The award, handed down in April, 1913, was a compromise, satisfactory to neither party. It proved to be the last arbitration award rendered under the Erdman Act, this law being replaced by the Newlands Act on July 15, 1913.

Further Federal Legislation

The Newlands Act was passed to remedy the defects that experience had disclosed. The principal respect perhaps in which the Erdman Act was unsatisfactory was in its provision for only three arbitrators, but one of whom could in any sense be regarded as impartial. It was felt, and with reason, that a controversy affecting all the railroads of a large section of the country was too momentous to be intrusted to the decision of one man. This objection was not so serious when the Erdman Act was passed, because at that time the unit of collective bargaining was a particular railroad, and not a group of railroads. But with the development of concerted movements, the issues became more involved, and a dependence upon the decision of one neutral arbitrator too hazardous. There was need, therefore, for an increase in the number of arbitrators. Other needed changes were the creation of a board of mediation enjoying a more permanent and independent status; the grant to this board of permission to take the initiative in adjusting labor controversies; a provision for the interpretation of the award after it was rendered, in the event of a disagreement as to its application; and a longer period than thirty days in which to frame an award. The immediate cause of the passage of the act, however, was the necessity of settling a serious dispute between the railroads and the conductors and trainmen in eastern territory. Some 23,000 conductors and some 63,000 trainmen had presented to the railroads a set of demands, which had been refused. A strike poll was taken, and about 97 per cent of the men voted to strike if their demands were not granted. The situation became so serious that President Wilson summoned the parties to a conference. As the result an agreement was reached to submit the matter to arbitration, provided the Newlands bill, then before Congress, was amended as recommended by the conference, and promptly enacted. Upon the

recommendation of President Wilson this was done, and the strike thereby averted.

The Newlands Act [1] embodied the necessary changes. It created the United States Board of Mediation and Conciliation, consisting of a Commissioner of Mediation and Conciliation, appointed by the President for a term of seven years, and not removable by him except for misconduct, and consisting also of not more than two other officials of the government designated by the President. The provision for a permanent commissioner, with no other duties, was a gain, since the federal mediators under the Erdman Act held other and highly important positions. The Board was specifically authorized to proffer its services to the disputants. In case of any controversy over the meaning or application of an agreement reached through mediation or arbitration, either party might apply to the Board for an opinion. This met the objection that awards made by impartial but inexperienced arbitrators were frequently interpreted by the railroad officials to the disadvantage of the employees. Arbitration might be before a board of six members, two representing the railroads, two the employees, and two the public, or before a board of three, as in the Erdman Act. In making an award the board of arbitration must confine itself to questions specifically submitted to it, or to matters directly bearing thereon. This was acceptable to the brotherhoods, since it prevented the board of arbitration from making such recommendations as the establishment of wage commissions. The period within which an award must be made was no longer to be limited to thirty days. Despite the recommendations of the arbitrators in the engineers' controversy, the Newlands Act, like its predecessor, left it optional with the parties whether they accepted mediation or arbitration. Moreover, the Newlands Act omitted the provisions of the Erdman Act providing for the enforcement of awards by courts of equity, and forbidding strikes and the discharge of employees during the pendency of arbitration and for three months thereafter (without thirty days' notice).

The act as amended proved of distinct service in the settlement of railway labor disputes. Under its provisions the controversy, referred to above, between the conductors and trainmen and the railroads in the East was settled, as well as the contro-

[1] 38 Statutes at Large, part I, pp. 103–108.

versy during 1914 to 1915 between the engineers and firemen and the railroads west of the Mississippi River. During the four and one-half years from the passage of the act to the taking over of the railroads by the government in December, 1917, mediation under the act was invoked 77 times, and 22 cases were settled by arbitration. During this period every road in the country 100 miles in length was directly involved in a controversy requiring the services of the Board of Mediation and Conciliation.

Useful as the Newlands Act was, it failed completely in the famous dispute of 1916. Early in that year the four train service brotherhoods joined forces, and for the first time launched a concerted movement against all the railroads in the country. The brotherhoods demanded an eight-hour day in freight train service without a reduction in pay. Hitherto ten hours had usually constituted a day's work. To the ten-hour day the railroad business had accommodated itself; for example, it took approximately ten hours as a rule for a freight locomotive to complete its run from one division point to another.[1] While the railroads might have been able to reduce the size of their trainloads or the length of their divisions, so as to complete the runs in eight hours, it was not believed that operating conditions would render this desirable or feasible. Accordingly, the train service men accompanied their demand for an eight-hour day with a demand for pay for overtime, the pay for all hours over eight to be the regular wage plus fifty per cent.[2] The railroad executives asserted that the demand of the brotherhoods was not in fact for shorter hours, as was claimed, but for increased wages. The executives pointed out that it would not be practicable to reduce the working day to eight hours; that the brotherhoods were aware of this fact; and that the effect of establishing an eight-hour day with penalty for overtime would be merely to increase the wages without reducing materially the hours of labor. They intimated that the unions put their demands in the form of a request for a shorter day, because such an ob-

[1] The demand for an eight-hour day was confined to the freight service, because passenger locomotives usually completed in from five to seven hours the 100 miles that were regarded as constituting a day's work. So far as the employees in the passenger service were concerned, therefore, there was no occasion for complaint on the score of hours. See Carter, W. S., *Proceedings of the Academy of Political Science*, 7, pp. 170–174.

[2] For a qualification of this general statement, see Parmalee, J. H., *Annals of the American Academy of Political and Social Science*, 69, p. 4.

jective would be more likely to enlist public sympathy than would a request for more pay.

Conferences between the railroad executives and the union representatives, for the purpose of considering these demands, were begun on June 1, but no settlement was reached. Thereupon the brotherhood officials took a strike poll of the train service employees, union and nonunion. The result of the balloting, which required several weeks to complete, showed that more than 90 per cent of the men had voted in favor of authorizing their representatives to order a strike if necessary. At this juncture the railroad executives invoked the services of the United States Board of Mediation and Conciliation; but mediation accomplished nothing. Thereupon President Wilson made an earnest endeavor to settle the controversy. He first suggested arbitration, but the brotherhoods refused to arbitrate, largely because they were dissatisfied with the outcome of arbitration proceedings in earlier disputes. The President then proposed that the railroad executives grant the request for an eight-hour day, which he declared undoubtedly had "the sanction of the judgment of society in its favor," and that the men accept the regular hourly pay for overtime until a disinterested commission had an opportunity to investigate the effects of an eight-hour day on railroad revenues. The proposal of the President was accepted by the men, but rejected by the railroad executives. Thereupon the brotherhood officials called a strike to begin on Labor Day, September 4. The public was first apprised of the date of the strike on August 28, as Congress was on the eve of adjournment. The situation was exceedingly serious, particularly in view of the strained international relationships that had developed because of the European War. The situation was so serious that President Wilson decided to ask Congress to bring the strike to an end by the enactment of legislation establishing the eight-hour day as the basis of pay. The desired legislation was promptly passed. The President's message was delivered to Congress on August 29; the bill was introduced in the House on August 31, and passed on September 1; it was accepted by the Senate on September 2; and signed by the President on September 3. As September 3 was Sunday and September 4 was Labor Day (a holiday), the President signed the bill again on September 5, in order that the legality of his first signature might not be attacked. The brotherhoods, however, did not wait even for his first signature to

call off the strike, for they had to act promptly to prevent it from going into effect, and they had no reason whatever to fear a presidential veto. The calling off of the strike greatly relieved the public, which would have suffered intensely had the walkout been prolonged; but there were many who deeply resented the surrender of Congress and the President to the "brazen demands" of the brotherhoods.[1] It is not easy to see just what else Congress and the President could have done in view of the serious situation confronting them, but it was clear to every one that some machinery had to be provided for the settlement in the future of similar controversies.

The provisions of the Adamson Act may be briefly summarized.[2] The act provided that after January 1, 1917, eight hours should "be deemed a day's work and the measure or standard of a day's work for the purpose of reckoning the compensation for services" of all railroad employees engaged in any capacity in the *operation* of trains in interstate commerce, subject to certain exceptions. The President was to appoint a commission of three to observe the operation of the eight-hour standard workday, and to report thereon to Congress and the President. Pending the report of the commission and for thirty days thereafter the compensation of the employees for an eight-hour day should not be reduced below the standard day's wage then in effect; and for all necessary time in excess of eight hours the employees should be paid at a rate not less than the rate of pay for a standard eight-hour workday. The act, it is clear, did not limit the working day of railroad employees engaged in train movement to eight hours; rather it provided that their wages should be based on an eight-hour day with pro rata pay for overtime. There was thus some reason to regard it as a wage statute rather than as an eight-hour day law.

The developments following the passage of the Adamson Act may be briefly noted. The railroad executives declared that the act was unconstitutional, and were supported in this view by Charles E. Hughes, formerly a member of the Supreme Court, but at the date of the passage of the act the Republican candidate for President. The railroads therefore brought a test case, and mean-

[1] *The Railway Age Gazette* referred to the action of Congress as "the most disgraceful scene ever enacted in the drama of American government." Vol. 61, p. 394.

[2] 39 Statutes at Large, part I, pp. 721–722.

while withheld from their employees the higher wages that were required (after January 1, 1917) by the Adamson Act. The decision of the Supreme Court was not rendered with the promptitude desired by the brotherhoods, and meanwhile (early in 1917) the country was slowly, but surely, drifting into war with Germany. The brotherhood officials, apparently fearing that they might be deprived by war or judicial interpretation of the fruits of their easily won victory, called a second national strike, to begin March 17. By this time diplomatic relations with Germany had been severed, and a declaration of war was imminent. Accordingly President Wilson made a strenuous effort to have the controversy settled; and he arranged to have it submitted to a committee of the Council of National Defense, the strike order meanwhile being postponed to March 19. As the result of the mediation of the Council of National Defense, the railroads agreed on March 19 to the demands of the brotherhoods, without waiting for the decision of the Supreme Court; and the strike was therefore called off the second time. Later in the same day the Supreme Court rendered its decision.[1] By a vote of five to four the Supreme Court affirmed the constitutionality of the act, the majority holding that the authority of Congress to establish the eight-hour day was so clear as to render the subject not open to dispute.

Less than three weeks after this decision the United States entered the war against Germany. During the war and after its close there were a number of interesting developments in the railroad labor field, but these will receive discussion in the chapters dealing with war and postwar conditions.

REFERENCES

CARTER, W. S.: "The Objections of Organized Labor to Compulsory Arbitration," *Proceedings of the Academy of Political Science*, vol. 7, pp. 36–43 (January, 1917).

——: "The Adamson Act: the Employees' Viewpoint," *Proceedings of the Academy of Political Science*, vol. 7, pp. 170–178 (January, 1917).

CUNNINGHAM, W. J.: "The Locomotive Engineers' Arbitration: its Antecedents and its Outcome," *Quarterly Journal of Economics*, vol. 27, pp. 263–294 (February, 1913).

DIXON, F. H.: "Public Regulation of Railway Wages," *American Economic Review*, vol. 5, pp. 245–269 (March, 1915, Supplement).

[1] 243 U. S. 332–389 (Wilson *v.* New).

FISHER, C. O.: "Use of Federal Power in Settlement of Railway Labor Disputes," *Bulletin of the Bureau of Labor Statistics*, no. 303, chs. 1–5 (March, 1922).

MCCABE, D. A.: "Federal Intervention in Labor Disputes under the Erdman, Newlands, and Adamson Acts," *Proceedings of the Academy of Political Science*, vol. 7, pp. 94–107 (January, 1917).

MAGNUSSON, LEIFUR and GADSBY, M. A.: "Federal Intervention in Railroad Disputes," *Monthly Labor Review*, vol. 11, pp. 26–43 (July, 1920).

ROBBINS, E. C.: "The Trainmen's Eight-Hour Day," *Political Science Quarterly*, vol. 31, pp. 541–557 (December, 1916); and vol. 32, pp. 412–428 (September, 1917).

SHARFMAN, I. L.: *The American Railroad Problem*, ch. 9 (1921).

TAUSSIG, F. W.: "The South-Western Strike of 1886," *Quarterly Journal of Economics*, vol. 1, pp. 184–222 (January, 1887).

UNITED STATES STRIKE COMMISSION: Report on the Chicago Strike of June-July, 1894, pp. XV–LIV (1895).

PART V
RAILROADS AND THE WAR

CHAPTER XXI

PRIVATE OPERATION DURING 1917

The United States entered the war against Germany on April 6, 1917. Five days later the leading railroad executives assembled in Washington, at the request of the Council of National Defense (a committee of six cabinet members), to organize their business so as to effect the maximum expedition in the movement of freight. At this meeting there was adopted the following resolution, which was subsequently subscribed to by practically all the railroads of the country.

"RESOLVED: That the railroads of the United States, acting through their chief executive officers here and now assembled, and stirred by a high sense of their opportunity to be of the greatest service to their country in the present national crisis, do hereby pledge themselves, with the Government of the United States, with the Governments of the several states, and with one another, that during the present war they will coordinate their operations in a continental railway system, merging during such period all their merely individual and competitive activities in the effort to produce a maximum of national transportation efficiency. To this end they hereby agree to create an organization which shall have general authority to formulate in detail and from time to time a policy of operation of all or any of the railways, which policy, when and as announced by such temporary organization, shall be accepted and earnestly made effective by the several managements of the individual railroad companies here represented."

The organization that was created under this pledge of the railways to "coordinate their operations in a continental railway system," which involved a merger of "all their merely individual and competitive activities," consisted primarily of an executive committee of five, and of several subcommittees.[1] The executive committee, popularly known as the Railroads' War Board, was

[1] The executive committee was selected from a larger committee, having thirty-three members, known as the Special Committee on National Defense of the American Railway Association.

composed of Fairfax Harrison, president of the Southern Railway, who was designated as chairman; Hale Holden, president of the Chicago, Burlington and Quincy; Samuel Rea, president of the Pennsylvania; Howard Elliott, chairman of the executive committee of the Northern Pacific; and Julius Kruttschnitt, chairman of the executive committee of the Southern Pacific. Mr. E. E. Clark, of the Interstate Commerce Commission, and Mr. Daniel Willard, president of the Baltimore and Ohio, and a member of the Advisory Commission of the Council of National Defense, were ex-officio members. Subordinate to the Railroads' War Board were subcommittees, under whose immediate direction the plans and policies of the War Board were carried out. These subcommittees handled such matters as car service, materials and supplies, express transportation, military freight tariffs, military passenger tariffs, military equipment standards, and military transportation accounting. The railroads' war organization, it should be noted, was a voluntary one, deriving no power or authority from the government.

The task of the Railroads' War Board was a prodigious one. It was compelled to secure the movement of a greatly increased tonnage at a time when the railway plant was already being utilized nearly to capacity. The requirements of our allies, and later of our own government, for munitions involved the transportation of enormous quantities of coal, iron ore, and steel. The building of the cantonments, where the soldiers were to receive their military training, made necessary the transportation of thousands of carloads of building materials, tentage, etc. Somewhat later came the movement of the troops to and from the cantonments, as well as the relatives and friends of the troops. The greatly increased demand of the allies for war materials and foodstuffs, combined with the losses in merchant ships due to submarine sinkings, forced upon the country an enormous shipbuilding program, which involved the carriage of huge quantities of lumber, steel, ship parts, and the like. The situation was rendered especially difficult by reason of the withdrawal of merchant ships from their usual trades. On account of the need for ships in the transatlantic trade, vessels which had formerly engaged in our coastwise commerce were withdrawn, leaving the service they had been accustomed to perform to be handled by the railroads.

The War Board was not only called upon to deliver a much

greater amount of transportation service, but to do so at a time when conditions were highly unfavorable. Perhaps the greatest difficulty it encountered was the scarcity of labor. Even before the entrance of the United States into the war the railroads had lost many skilled mechanics to the companies manufacturing munitions and other war supplies. These companies were able, on account of the unusual prosperity they were enjoying, to pay much higher wages than the railroads could afford. After the war came to this country the situation in this regard became distinctly worse. Later the draft called to the colors some 70,000 railroad employees, unskilled as well as skilled. As the result of these conditions many railroads had fewer employees than usual; and those that they had were on the whole less efficient. These remarks are not designed to reflect in any way upon the contribution of the railroad employees; for those who had an opportunity to secure more remunerative employment can hardly be blamed for leaving the railroad service, and those who joined the Army and Navy did so in response to the Nation's call. Yet the fact remains that the railroads were greatly hampered in the carrying out of their war program by the scarcity of labor and by the large percentage of labor turnover. The railroads were continually hiring new men, only to lose them again because of an inability to pay the high wages offered in war industries. On some roads, indeed, the mechanical force was turned over two or three times in the year. Mention may be made of the further fact that nine regiments of railway engineers were sent to France to aid in the construction and repair of railroads, shops, and terminals, both on and back of the firing line.

Another serious obstacle was the scarcity of equipment, coupled with the inability to secure new equipment. Though many of the equipment companies were busily producing munitions, they were also manufacturing locomotives and freight cars. Yet the needs of our allies for equipment were even greater than our own, and accordingly equipment that was sorely needed at home was sent abroad to France, England, and Russia. As a result the supply of locomotives and freight cars available for the railroads of this country was only a little larger in 1917 than in the previous year. From the standpoint of winning the war it was necessary that the equipment be employed where it would render the greatest service, but the effect of sending a portion of our equipment

abroad was to increase the difficulty of the railroads' task, especially in view of the scarcity of mechanics to repair the equipment that was retained for home use. The situation was aggravated, moreover, by the inadequacy of shipping facilities. Freight cars accumulated at the ports on the Atlantic Coast because of a lack of ships in which to unload their contents, and loaded freight cars in the interior were held on the sidings when it became evident that ships were not available at the ports. Very important also was the inadequacy of terminal facilities. Terminals are the narrow neck of the transportation bottle, and they can not be built in a day. These difficulties—scarcity of labor, insufficiency of equipment, and inadequacy of terminal facilities —were by no means the only ones with which the railroads had to contend, but they were serious enough.

The Railroads' War Board endeavored to meet the trying situation with which it was confronted by making a more intensive and effective use of the available equipment and staff. (1) It requested the shippers to load the cars more heavily and carefully. The average car capacity during 1916 was 41.0 tons, and the average carload (revenue freight) was 22.8 tons. The percentage of capacity utilized was thus only 56. While it was obviously impossible to secure an average load equal to the capacity, an improvement was quite possible.

(2) The War Board also urged the shippers to load and unload the cars more promptly. From statistics collected by the Board it appeared that the time consumed by the shipper and consignee in loading and unloading a freight car averaged approximately two days each, or a total of about four days per trip. The Board endeavored to secure greater speed in loading and unloading by appealing to the shipper's patriotism and to his pocketbook. The latter appeal was made to the extent permitted by statute through an increase in the demurrage rates, that is, the charge for the use of the car beyond the free time allowed the shipper (and the consignee).

(3) The cars having been loaded more heavily and more promptly, the War Board endeavored to have the railroads move them faster. The average daily mileage of a locomotive was only 75, and of a freight car only 25. This may seem very low, but of course freight cars are standing still much of the time, while they are being loaded and unloaded. By improved terminal arrange-

ments and other devices the daily mileage of both locomotives and cars was substantially increased.

(4) To secure more use out of the available equipment the War Board tried to expedite repairs. In April, 1917, 15.1 per cent of the freight locomotives and 5.7 per cent of the freight cars were awaiting repair. The War Board set as its goal the reduction of these percentages to 10 and 4, respectively, a most ambitious program in view of the scarcity of skilled labor due to the abnormal conditions.

(5) The War Board effected a considerable curtailment of passenger service, in order that the locomotives, fuel, and labor that were saved thereby might be made available for the transportation of necessities. Its directions to the railroads requested them to consolidate, where practicable, through passenger service; to eliminate trains that were not well patronized; to diminish the number of special trains; to eliminate excursion trains; to reduce luxuries, such as observation cars; and to cut down the elaborate bills of fare furnished on many dining cars. The Railroads' War Board estimated that over 28,000,000 passenger train miles were discontinued, resulting in a saving of 1,800,000 tons of coal per annum, and the release of 570 locomotives and 2,800 men for freight service.

(6) The War Board, in coöperation with other agencies, made arrangements for the pooling of coal shipped to the Great Lakes and to tidewater. Theretofore the practice had been for a shipper to send his coal to some port, say at Lake Erie, and to hold the coal in the cars until a shipload had been accumulated. As there were many grades of coal, this practice tied up the cars and required much switching. Under the pooling arrangement the coal of the various producers, upon its arrival at the port, was put into a common pool, and sent on its way as soon as a steamer was available. Obviously not all of the coal could be placed in one pool; there are many grades of coal, and certain industrial operations require a particular grade. Nevertheless the number of classifications of coal was greatly reduced, the reduction in the case of lake coal being from 677 to 97, and in the case of tidewater coal from 900 to 125. On the return journey by the lakes iron ore shipments were similarly pooled. These measures, which involved the sacrifice of well-established trade names, greatly expedited the movement of coal and iron ore; and since coal is the largest single item of freight, effected a marked saving.

(7) The War Board also pooled all the box cars in the country, regardless of their ownership; and sent them in trainloads of empties to the regions where they were most needed. Between May and the end of the year the Board, through the Commission on Car Service, issued orders for the relocation of 222,000 cars, of which 188,000 were moved off the initial line. This measure, which involved a considerable expense for the lines moving the empties, was one of the most far-reaching taken by the Board.

(8) To conclude the enumeration, which is not intended to be complete, the War Board ordered the railroads to give coal and iron ore preference over all other traffic. It issued regulations to secure the prompt return of hopper and gondola cars to the home road, and announced its intention of enforcing this requirement by disciplinary measures, including the publication of the names of offending officers and railroads.

Mention may be made at this point of three laws passed during the summer of 1917 for the purpose of expediting the movement of freight or increasing the effectiveness of federal regulation. The first of these was the Esch-Pomerene Act, approved on May 29.[1] This act gave the Interstate Commerce Commission power to regulate car service, which was defined to include "the movement, distribution, exchange, interchange, and return of cars used in the transportation of property." Carriers were required to establish and enforce just and reasonable rules, regulations, and practices with respect to car service, and to file them with the Commission, upon its request. The Commission was authorized, after hearing, to establish reasonable rules with regard to car service, including the compensation to be paid by any common carrier for the use of cars not owned by it. Whenever an emergency existed, however, the Commission was empowered, without hearing, to suspend the operation of any or all car service rules, and to make such just and reasonable directions with respect thereto as in its opinion would best promote car service in the interest of the public and the commerce of the people.

The act authorized the Commission to exercise its powers through such agencies as it might designate. Under this provision the Commission organized a division of car service, which later became the Bureau of Car Service. The Commission stated in its annual report for 1917 that whenever occasion required,

[1] 40 Statutes at Large, part I, pp. 101–102.

orders as to car service would be issued directly to the carriers, but that the Commission would coöperate with the Commission on Car Service of the Railroads' War Board, which already had a large staff at work on the problem. As a matter of fact the Interstate Commerce Commission found it unnecessary to exercise the summary power conferred by the Esch-Pomerene Act. The Commission's Bureau of Car Service made its wishes known to the War Board's Commission on Car Service, and this commission issued directions to the individual railroads. These directions were naturally made more effective because of the reserved power of the Interstate Commerce Commission to issue orders that would have the force of law, whenever the individual railroads failed to accept the directions of the War Board's Commission on Car Service.

The second act, passed on August 9, 1917, provided for the enlargement of the Interstate Commerce Commission, and for its subdivision into smaller groups with power to act upon matters assigned to them.[1] The number of the commissioners was increased from seven to nine; and the Commission was authorized to divide its members into as many divisions as it might deem necessary. Any division to which the Commission assigned work or functions was to have all the jurisdiction and powers enjoyed by the Commission; and any decision or order made by a division in respect to the matters assigned to it was to have the same force and effect as if made by the Commission, subject to rehearing by the latter. It was provided, however, that in all proceedings relating to the reasonableness of rates or to alleged discriminations at least three members should participate in the decision, and in all proceedings relating to the valuation of railway property at least five members.[2]

The Interstate Commerce Commission expressed the belief in its annual report for 1917 that this statute would result in increased efficiency and less delay in decisions, without a sacrifice of uniformity in decision.

The third act, passed on August 10, 1917, dealt with obstructions to interstate commerce and with priorities in transportation.[3] It subjected to penalties, including imprisonment, any one who,

[1] 40 Statutes at Large, part I, pp. 270–272.
[2] Reduced to three members by the Esch-Cummins Act of 1920.
[3] 40 Statutes at Large, part I, pp. 272–273.

during the conduct of the war, by physical force or intimidation obstructed or retarded the orderly movement of interstate or foreign commerce and the movement or disposition of any train, locomotive, car, or other vehicle engaged in interstate or foreign commerce. With regard to priorities the act provided that during the war the President of the United States was authorized to direct that such traffic as, in his judgment, was essential to the national defense and security should have preference or priority in transportation by any common carrier. The President was permitted to issue these orders direct, or through such person or persons as he might designate.

The purpose of these priority provisions was to ensure the prompt movement of commodities that were most closely related to the carrying out of the war program. Prior to the passage of this act the railroads had been giving preference to particular shipments upon the request of the various government departments, such as the Army, Navy, Shipping Board, Food Administration, and Fuel Administration. These departments were naturally anxious to perform satisfactorily the several tasks confided to them, and the result was that they abused the priority privilege. They asked for preferred movement of the articles in which they were especially interested, when the movement of certain other articles was much more important, and even when there was no need whatever for speed. An extreme case will illustrate the point. In one instance the railroads were asked to "rush" a shipment of anchors, despite the fact that the ships on which they were to be used had yet to be begun in a shipyard that had yet to be completed. Since the railroads were experiencing grave difficulty in handling the enormous volume of traffic offered, the public interest demanded that there be some central agency with authority to control priority in transportation.

The President exercised the powers granted to him through Judge R. S. Lovett, chairman of the executive committee of the Union Pacific Railroad, who was designated as Director of Priority. Judge Lovett followed the policy of interfering with the operation of the railways only when an emergency demanded it. In fact during the first two and one-half months he issued only one priority order. This was an order requiring the railroads to give preference to shipments of coal to Lake Erie, so that the Northwest might secure an adequate supply of coal

before the closing of the navigation season. By this means a coal famine in the Northwest was averted. Other orders followed, the net effect of which was to facilitate the movement of necessary war traffic.

The measures adopted by the Railroads' War Board, supplemented by the legislation just described, resulted in a considerable increase in the volume of traffic handled. During the nine months from April to December, 1917, the railroads moved 9.8 per cent more ton miles of revenue freight than they had moved during the corresponding period of 1916, though meanwhile the average number of freight locomotives in service had increased only 1.1 per cent, and the average number of freight cars only 2.9 per cent. The average trainload during the nine-month period was increased by 6.9 per cent (as compared with the corresponding period of 1916), and the tonnage per loaded car was increased by 9.2 per cent. The performance would make a better showing statistically were it not for the fact that the year 1916 was in turn a record breaker, the freight ton mileage in that year exceeding the figure for 1915 by nearly one-third. Nevertheless the achievements of the Railroads' War Board were notable.

Despite the fact that the railroads were carrying more traffic than ever before, they were, nevertheless, unable to move all the traffic offered. Moreover, toward the close of 1917 the congestion became very bad, especially in the East. There was little congestion in the West and South, but during November a very serious condition developed in the East. It was in this section that most of the munition plants were located, and the volume of fuel and raw materials moving in and of manufactured products moving out was enormous. Moreover, the vast exports of foodstuffs and war supplies to our allies went out, in the main, through the eastern seaports. The transportation situation in the East became so serious as to lead to drastic measures. Realizing that a breakdown was impending the Railroads' War Board on November 24, 1917, directed "that all available facilities on all railroads east of Chicago be pooled to the extent necessary to furnish maximum freight movement." The effect of this plan was stated to be "that to the full extent that conditions render it desirable these railways will be operated as a unit, entirely regardless of their ownership and individual interests." The operation of the eastern lines as a unit was transferred to a committee,

composed of the operating vice presidents of these lines; and this committee was given authority to adopt any measure that was necessary to assure the maximum amount of transportation. As a part of the plan locomotives, machine tools, and employees were to be transferred from other railroads to the eastern roads, and the repair shops of other lines were to be used in making repairs on the equipment of the eastern lines. The War Board referred to this step as "revolutionary," yet it would appear to be merely a phase of the creation of a continental railway system, such as had been promised in the resolution of April 11. Taken in time this drastic action of the Board might have been successful, and have warded off federal operation. But it was taken too late, as private operation was about to be abandoned in favor of such a unification of facilities as can only be secured by government operation.

Hardly had the War Board pooled the facilities of the eastern railroads when the Interstate Commerce Commission, on December 5, made a special report to Congress on the railway situation.[1] The Commission said that it had become clear that unification in the operation of the railroads during the war was indispensable to their fullest utilization. This unification could be effected in only two ways. One was through the railroads acting as a unit; the other was through the President of the United States in accordance with the war powers vested in him. If the former alternative was adopted the railroads should be relieved during the war, it said, from the prohibitions of the anti-trust laws (except in respect of consolidations of competing lines) and from the anti-pooling section of the act to regulate commerce; and they should be provided from the government treasury with financial assistance in the form of loans. If, however, operation by the President was decided upon there should be a suitable guaranty to each railroad of an adequate annual return for the use of its property. The Commission did not say which of these alternatives should be chosen, but it expressed the firm conviction that the situation did not permit of temporizing.

Commissioner McChord of the Interstate Commerce Commission filed a separate report. He agreed that unification was necessary, but he denied that it could be achieved through the

[1] See *Annual Report of the Interstate Commerce Commission*, 1918, pp. 4–9.

action of the railroads. He pointed out that the Railroads' War Board was the fifth committee that the railroads had had in Washington to deal with transportation since November, 1916. He pointed out, further, that the Railroads' War Board had been created on April 11, under a resolution whereby the railroads agreed that during the war they would "coordinate their operations in a continental railway system, merging during such period all their merely individual and competitive activities," and yet the measures necessary to make this resolution effective had not been taken until November 24. He agreed that the War Board had produced results, but he maintained that no voluntary committee could accomplish what was demanded. One of the principal reasons was that self-interest caused the railway executives to resist measures that sought to secure maximum transportation results at the expense of individual rights. He therefore recommended that the President exercise the authority vested in him, and take possession and assume control of the railroads.

During December the inability of the railroads to deliver the necessary transportation service became more and more apparent. Though the railroads moved nearly 10 per cent more ton miles of revenue freight during April–December, 1917, than during April–December, 1916, they moved 2.6 per cent *less* ton miles in December, 1917, than in December, 1916. Though the average mileage per locomotive per day was 2 per cent greater during April–December, 1917, than during April–December, 1916, it was 5.2 per cent *less* in December, 1917, than in December, 1916. Again, though the average mileage per car per day was 1.8 per cent less during April–December, 1917, than during April–December, 1916, it was 16.1 per cent less in December, 1917, than in December, 1916. In the eastern district, where the congestion was worst, the average mileage per car per day was 20.5 per cent less in December, 1917, than in December, 1916.

Confronted with this situation President Wilson decided toward the close of December to accept the recommendation of Commissioner McChord, and to secure the necessary unification of facilities through government operation of the railroads. The President was able to take this summary step without waiting for congressional legislation, because the requisite authority had already been conferred on him by the Army Appropriation Act of August 29, 1916. A provision of this act empowered the

President, in time of war, to take possession and assume control of any system of transportation, or any part thereof, and to utilize it, to the exclusion so far as might be necessary of all other traffic, for the transportation of troops, war material, and equipment. The decision of the President to take possession of the railroads was announced in a proclamation dated December 26, 1917. Effective at noon of December 28, the President took over every system of transportation and the appurtenances thereof located wholly or in part within the boundaries of the continental United States, and consisting of railroads and owned or controlled systems of coastwise and inland transportation engaged in general transportation, including also terminals, sleeping cars, parlor cars, private cars, elevators, warehouses, and telegraph and telephone lines. Street railways and interurbans were not included. Though the order of the President was to become effective at noon of December 28, for accounting purposes possession was to date from midnight of December 31.

It his proclamation President Wilson gave no reasons for his action; these and other matters were dealt with in a statement to the public on December 26, and in an address to Congress on January 4, 1918. In these documents the President pointed out that this was a war of resources no less than of men, and that it was necessary for the complete mobilization of our resources that the transportation systems of the country be organized under a single authority and a simplified method of coördination which had not proved possible under private management. It was in the true spirit of America, he said, that we should first try to effect the necessary unification under the voluntary action of those who were in charge of the railway properties; and we did try it. "The directors of the railways responded to the need promptly and generously. The group of railway executives who were charged with the task of actual coordination and general direction performed their difficult duties with patriotic zeal and marked ability, as was to have been expected, and did, I believe, everything that it was possible for them to do in the circumstances. If I have taken the task out of their hands, it has not been because of any dereliction or failure on their part but only because there were some things which the Government can do and private management cannot. . . . It had become unmistakably plain that only under government administration can the entire equipment of the several

systems of transportation be fully and unreservedly thrown into a common service without injurious discrimination against particular properties. Only under government administration can an absolutely unrestricted and unembarrassed common use be made of all tracks, terminals, terminal facilities and equipment of every kind. Only under that authority can new terminals be constructed and developed without regard to the requirements or limitations of particular roads." [1] And again, "one of the strong arguments for assuming control of the railroads at this time is the financial argument. It is necessary that the values of railway securities should be justly and fairly protected and that the large financial operations every year necessary in connection with the maintenance, operation and development of the roads should, during the period of the war, be wisely related to the financial operations of the Government. . . . No borrowing should run athwart the borrowing of the federal treasury." [2] In conclusion, the President pointed out that the government of the United States was the only great government engaged in the war which had not already assumed control of this sort. "A great national necessity dictated the action, and I was therefore not at liberty to abstain from it." [3]

REFERENCES

Cunningham, W. J.: *American Railroads*, pp. 23–27 (1922).
Dixon, F. H.: *Railroads and Government*, ch. 8 (1922).
Dixon, F. H. and Parmalee, J. H.: *War Administration of the Railways in the United States and Great Britain* (1918).
Esch, J. J.: "Regulation of Car Service under Government Control of Operation," *Annals of the American Academy of Political and Social Science*, vol. 76, pp. 34–31 (March, 1918).
Harrison, Fairfax: "The Railroads' War Problem," *Scribner's Magazine*, vol. 62, pp. 363–369 (September, 1917).
Hungerford, Edward: *The Railroad Problem*, ch. 11 (1917).
Sharfman, I. L.: *The American Railroad Problem*, ch. 3 (1921).

[1] *Congressional Record*, January 4, 1918, p. 559.
[2] Ibid., p. 560.
[3] Statement of President Wilson to the public (December 26). Reproduced in Cunningham, W. J., *American Railroads*, pp. 307–309.

CHAPTER XXII

GOVERNMENT OPERATION FROM 1918 TO MARCH 1, 1920

Having taken possession of the railroads under his war powers, it was necessary for the President to create an organization to operate the roads. This task he intrusted to Mr. William G. McAdoo, the Secretary of the Treasury, who was appointed Director General of Railroads. Mr. McAdoo was eminently qualified for this position by virtue of his practical experience, his unusual ability as an organizer, and his position as Secretary of the Treasury, which enabled him to coördinate the financial operations of the railroads with those of the government. In his proclamation of December 26 the President had directed the officers and employees of the railroads to continue the operation thereof in the usual manner, until or unless the Director General ordered otherwise. The President had also directed that the railroads should remain subject, except in so far as the Director General might from time to time decide otherwise, to the federal and state statutes, and to the orders of the Interstate Commerce Commission and the various state regulating commissions. However, the orders of the Director General were to have "paramount authority," and to be obeyed as such. The operation of the railroads thus devolved upon the Director General, acting as the agent of the President. The policies and accomplishments of the Director General in the operation of the railroads will form the main theme of this chapter, but before taking up this topic it will be well to say a few words with regard to the legislation enacted by Congress to provide for the operation of the railroads while under federal control, and to make provision for the compensation of their owners.

The Federal Control Act

President Wilson had referred briefly to the matter of compensation in his proclamation of December 26, but he took up the subject at greater length in his address of January 4, in which he

requested Congress to pass promptly the necessary legislation. The President pointed out that railway securities, held by individuals, national banks, savings banks, trust companies, insurance companies, and financial agencies of every kind, constituted a vital part of the structure of credit; and held that the unquestioned solidity of that structure must be maintained. The President therefore recommended that Congress guarantee to the railways such compensation as would be just alike to their owners and the general public. He suggested the average railway operating income during the three years ending June 30, 1917. The legislation requested by the President was enacted by Congress; and the Federal Control Act, as it is usually called, went into effect on March 21, 1918.[1]

The Federal Control Act authorized the President to enter into individual agreements with the railroads, guaranteeing them an annual sum not exceeding their average annual railway operating income during the three years ending June 30, 1917.[2] The Interstate Commerce Commission was directed to ascertain this figure, and its certificate was to be conclusive. Any income realized during the period of federal control in excess of the compensation agreed upon was to remain the property of the United States. If the President found that compensation based on the three-year period ending June 30, 1917, would be inequitable, because of special considerations applicable to a particular road, he was empowered to agree with that road upon such compensation as he found just. In the event of a failure to agree upon compensation the matter might be submitted to a board of referees, appointed by the Interstate Commerce Commission; and the President might enter into an agreement with the railroad to pay the just compensation recommended by the board. In the event of a continued failure to agree, either the United States or the railroad might take the case to the Court of Claims. The agreements between the President and the railroads were to contain adequate provisions for the maintenance of the property, in order that it might be returned to the company in substantially as good repair and with substantially as complete equipment as at the beginning of federal control. While under federal control the railroads

[1] 40 Statutes at Large, part I, pp. 451–458.

[2] For a discussion of the contracts entered into between the administration and the railroads, see Dixon, F. H., *Railroads and Government*, pp. 125–132.

might issue such securities as the President approved, but no railroad might, without the approval of the President, pay any dividends in excess of its regular rate during the three-year test period.

The railroads, while under federal control, were to be subject to all laws and liabilities as common carriers, whether arising under federal, state, or common law, except in so far as inconsistent with the provisions of this act or with any order of the President. The President might initiate rates and classifications, and these were not to be suspended by the Interstate Commerce Commission pending the determination of their reasonableness. However, the Commission might, upon complaint, inquire into the reasonableness of the rates and classifications established by the President, and make such orders with respect thereto as were authorized by the interstate commerce acts. In case the President certified to the Commission that it was necessary to increase railway revenues, the Commission was to take this certificate into consideration in making a decision as to the reasonableness of any rate or classification. The sum of $500,000,000 was appropriated to pay the expenses of federal control; to make up the difference, if any, between the compensation guaranteed to the owners of the railroads and the realized profits available for this purpose; and to provide the necessary terminals and equipment. Cases brought under the interstate commerce or anti-trust acts, and then pending in the courts of the United States, were to proceed to final determination, as if the government had not assumed control of the railroads; but the court might, upon application of the government, withhold execution of final judgment. Nothing in the act was to be construed to affect the existing powers of the states in regard to taxation or lawful police regulations, unless these laws or regulations affected the transportation of troops, war material, government supplies, or the issue of stocks and bonds. The duration of federal control was not to continue more than one year and nine months after the proclamation by the President of the mutual ratification of the treaty of peace, but the President might relinquish control of any railroad prior to July 1, 1918, and of all the roads together at any time. The Federal Control Act was specifically declared to be emergency legislation, and nothing therein was to be construed to express the future policy of the nation with regard to railways.

Organization of the Railroad Administration

To return to the operation of the railroads by the government, the task of Director General McAdoo was a colossal one. He was responsible for the operation of railroads owning about one-quarter of a million miles of main track. The railroads under his control had a greater mileage than all the railroads of Europe; they handled a greater volume of traffic; and they covered nearly as large an area. They employed all told about 1,750,000 men and women. As Mr. Walker D. Hines, subsequently Director General of Railroads, said, the federal control undertaken late in 1917 represented probably the greatest transfer from private management to public that had ever taken place. It was obvious, therefore, that Mr. McAdoo, especially if he was to retain his other positions of high responsibility, must confine himself largely to general direction and coördination, leaving the details of operation to the existing staff. Accordingly on December 26, the day of his appointment, Mr. McAdoo issued an order, directing the presidents of all the railroads under his jurisdiction to continue the operation of their roads until ordered otherwise. Three days later he issued a similar order directing all officers, agents, and employees to continue in the performance of their regular duties, reporting to the same officers and on the same terms of employment. These orders were designed to continue the operation of the roads without confusion until such time as the Director General was able to develop an organization capable of speeding up the movement of traffic.

The organization finally adopted by the Director General, as a substitute for the Railroads' War Board, the members of which resigned on December 31, was comparatively simple.[1] It embraced, first, the central organization at Washington, which may be regarded as the Director General's personal and advisory staff. This organization included an assistant Director General (Mr. Walker D. Hines, later Director General), an assistant to the Director General, and directors of divisions of operation, traffic, finance and purchases, capital expenditures, public service and accounting, law, labor, and inland waterways. Though each di-

[1] A chart showing the organization of the United States Railroad Administration is in the *Railway Age*, 65, p.1124. See also Clapp, E. J., *Railway Traffic*, p. 34.

rector was assisted by a corps of experts, the policy was to keep the central force as small as possible. The function of the Washington staff was to originate general policies and to exercise general supervision over the railways; and for these purposes an elaborate organization was not needed. The assistant Director General and the directors of divisions were experienced railroad men, of not one of whom it could be said that he had been chosen for any other reason than his ability to do the job. Political considerations, the bugbear of the opponents of government operation, were neglected entirely in the selection of the administrative staff.

The organization of the Director General included, also, a number of regional directors, to whom Mr. McAdoo delegated responsibility for the actual operation of the railroads within their region, except, however, as to labor policies. In the beginning there were three regional directors: Mr. A. H. Smith, president of the New York Central Railroad, in charge of operations in the East; Mr. C. H. Markham, president of the Illinois Central Railroad, in charge of operations in the South; and Mr. R. H. Aishton, president of the Chicago and Northwestern Railroad, in charge of operations in the West. Subsequently the number of regions was increased to seven.[1] Mr. McAdoo was well aware of the fact that he could not attend to the details of railway operation, and accordingly he gave instructions that the orders issued by the regional directors were to be regarded as issued by his authority, and to be respected accordingly. The regional directors, being in charge of numerous railroads, and not being responsible for the welfare of any particular one, were expected to coördinate the operations of the railroads to secure the maximum transportation service, as the Railroads' War Board had not been able to.

Subordinate to the regional directors, of course, were the presidents of the roads within their respective regions. The status of these presidents was different, however, in the beginning from what it was later. Until May 21, 1918, the president of each railroad acted as the agent of the Director General, but he also continued to serve as the chief executive officer of the railroad company. The railroad presidents were thus compelled to "serve two masters,"—the government, with its interest in a maximum of transportation service irrespective of the effect on particular

[1] For a map of these regions, see *Railway Age*, 64, p. 1467.

corporate properties, and the stockholders, with their interest in the preservation of the strategic position of their particular property. The Director General took the position that "no man can serve two masters," and accordingly on May 21 introduced a fundamental change. He ordered that thereafter the operation of the railroads should be placed in the hands of federal managers, who should have no obligation to the corporation as such, but should be responsible solely to the United States Railroad Administration. This new ruling did not involve much of a change in the operating personnel, since in most cases the president or operating vice president of the railroad was designated federal manager, but it naturally affected the spirit in which the officials approached their work. The stockholders were privileged, of course, to elect a new president (in case the former president was made federal manager) to look after their interests in the matter of the contracts for compensation, etc., but the president was to have no operating duties, and he was to be paid by the stockholders, and not by the government. The federal managers, like the former railroad presidents, were subordinate to the regional director of their region, and in some cases, where the region was in turn divided into districts, to the district directors, who, of course, were subordinate to the regional director.

To summarize, the operating organization was like a pyramid. The Director General formed the apex; and below him came the regional directors, the district directors (in some cases), and the federal managers. The organization below the federal managers was not seriously disturbed. This explains why the transition from private operation to federal was accomplished without confusion. The base of the pyramid was formed by the great mass of the employees, skilled and unskilled.

Operation During the War

We proceed now to consider the policies of the Director General in the operation of the railroads. In dealing with this topic it must be noted that the twenty-six months of federal control embrace two distinct periods. The first period extends from December 28, 1917, to November 11, 1918, on which date the armistice was signed; the second extends from November 11, 1918, to March 1, 1920, on which date government operation came to an end. During the first period the country was at war; and every-

thing was subordinated to its successful prosecution. Economies were introduced whenever feasible, but the prompt movement of war traffic, whatever the cost, was the constant goal of the Railroad Administration. During the second period the country was readjusting itself to the new conditions, and the policies of the Railroad Administration naturally underwent a marked change. More consideration had perforce to be given to the wishes of the shipping and traveling public, and more regard paid to the expenses of operation. During all of the first period and the first two months of the second (that is, until January 11, 1919) Mr. McAdoo was Director General; during the rest of the second period Mr. Walker D. Hines was Director General.

In pursuance of his professed policy of employing the railroads to win the war, first of all, Director General McAdoo adopted a number of measures designed to increase efficiency.

(1) *Short Routing of Traffic.* On the day that he assumed the direction of the railroads the Director General requested the executives to move traffic by the most expeditious route, regardless of the effect on the earnings of individual roads. The Railroads' War Board could not well make such an order, because of the serious loss that would have been sustained by the railroads whose traffic was diverted. Under the government guarantee, however, no railroad was injured, because there was no relation between its compensation and the traffic handled. The right of the shipper to designate the route of his shipment, given to him by the Mann-Elkins Act of 1910, was to be abrogated when speed of movement would be increased thereby. The rerouting of traffic made it possible to effect many savings, and to divert traffic from the congested lines and terminals. However, the savings thus made possible should not be exaggerated. The fact is that the burden on the railroads was so great, particularly in the East, that frequently all routes, indirect as well as direct, had to be used to take care of the business. Under these conditions some saving was still possible, but not nearly so great a saving as would have been possible had more of the capacity of the railroads been unutilized.

(2) *Unification of Facilities.* By General Order No. 1, dated December 29, 1917, Mr. McAdoo directed that the transportation systems under his control be operated as a national system of transportation, "the common and national needs being in all instances held paramount to any actual or supposed corporate advan-

tage." All terminals, ports, locomotives, rolling stock, and other transportation facilities were to be fully utilized to carry out this purpose without regard to ownership. As regards terminals—the narrow neck of the transportation bottle—the possibilities in the direction of unification were obviously limited. Railroad terminals in the past had usually been built upon the principle that the terminal of each railroad was an independent undertaking, bearing little relation to the terminals of other roads. As a result the terminals were separate and frequently far apart. Complete unification was impossible without a physical reconstruction, and for this there was not time in the war period. To the extent that unification was possible and desirable the Railroad Administration achieved it. Illustrating by the passenger service, the New York City terminal of the Pennsylvania Railroad was opened to the passenger trains of the Baltimore and Ohio Railroad and the Lehigh Valley Railroad. In the Far West the Southern Pacific's terminal at Oakland (just across the bay from San Francisco) was opened to the Atchison, Topeka and Santa Fe and the Western Pacific. The ferry facilities of the last two roads were discontinued, and the passengers of all three roads brought to San Francisco by the boats of the Southern Pacific. The unification of freight terminals is well illustrated by the changes introduced in Chicago, the railroad center of the United States. There were three belt lines in Chicago, an outer, inner, and middle. The Railroad Administration used the outer belt line for the interchange of traffic (except perishables) going through Chicago en route to destination; the middle belt line (possessing ample icing facilities) for the interchange of perishables going through Chicago en route to destination; and the inner belt line for the delivery of freight within the city of Chicago. Though the gains realized in this way were by no means as great as would have been possible under a system of unification planned from the beginning of railroad construction, nevertheless congestion was reduced and savings were effected.

So far as locomotives and cars were concerned, the matter was simpler. These were thrown into a single pool, irrespective of their ownership; and the Railroad Administration utilized them where they were most needed, bearing in mind, of course, the suitability of the equipment for the traffic to be handled. Repair shops were also pooled, thus shortening the haul to the repair shops, and the length of time required to make equipment ready for use.

(3) *Reduction in Passenger Service.* The Railroad Administration made a serious attempt to reduce the volume of passenger travel. As the Director General said in a report to the President, "the needs of the war imperatively require that every available passenger coach, sleeping car, and locomotive shall be released for the use of troop movements, and that track and terminal facilities shall be cleared of unnecessary passenger trains, so that essential food, fuel, war supplies, and freight of all kinds may be moved expeditiously and economically." [1] The Railroads' War Board had also endeavored to curtail passenger train service, but it did not achieve the same measure of success. Whereas the Board effected an estimated saving of 28,000,000 passenger train miles, the Railroad Administration made additional savings estimated at over 67,000,000 miles per year, or over 10 per cent of the country's total. The reduction was effected in part by the elimination of duplicate, and therefore unnecessary service. For example, there were two trains between New York and Chicago that left New York at the same time, and reached Chicago simultaneously. Sometimes one train could have handled the passengers of both. This was substantially true of many other passenger runs. A genuine saving was effected here without serious inconvenience to anyone. The reduction was also effected in part by the provision of fewer or inferior facilities. As a result the traveling public suffered some inconvenience and discomfort, especially in view of the fact that, notwithstanding the measures of the Railroad Administration, passenger traffic was greater in 1918 than in 1917. The large volume of travel was due to the movement to and from the army camps, the constant shifting of labor to and from jobs, the enjoyment of larger incomes by many who had hitherto been unable to afford the pleasures of travel, and the large volume of business being transacted. The inconvenience and discomfort to which the traveling public was subjected were no greater, however, than might be expected in war-times, when not to travel unnecessarily was a patriotic duty.

(4) *Increase in Demurrage Rates.* The Railroads' War Board had endeavored to secure more prompt unloading of the available freight cars by means of persuasion and an increase in the demurrage charge. Notwithstanding its efforts many shippers employed the cars as storage warehouses, preferring to pay the demurrage

[1] September 3, 1918, p. 19.

rather than release the car. The Railroad Administration met this situation by a decided increase in the demurrage rates. The charge for the use of the car beyond the free time allowed the consignee was increased to $3 per day for the first four days, to $6 per day for the next three days, and to $10 per day thereafter. The Railroad Administration did not believe or hope that increased revenues would result; on the contrary, it made the charge practically prohibitive in order to make sure that the shippers would unload the cars promptly, and thus make them available for further service. The Railroads' War Board could not adopt such drastic action in the interest of efficiency, because it could not raise the demurrage charges without the consent of the regulating commissions; and they could hardly be expected to sanction so great an increase as that imposed by the Railroad Administration.

(5) *Store Door Delivery.* To avoid congestion at the terminals the Administration introduced in some of the larger cities the "store door" system of delivery. Instead of notifying the consignee to call for his goods, and of allowing him a certain amount of free time in which to comply, the Administration made immediate delivery by drays, and charged the consignee for the service of drayage. This arrangement eliminated free time at the terminals where it was employed, greatly reduced the period during which the cars remained idle, and therefore released them earlier for further duty.

(6) *Sailing Day Plan.* This was a plan for assembling less than carload freight in carload lots at the point of origin, and for sending it to destination without transfer. Under it shippers in less than carload lots were allowed to bring their freight to the station on specified days only. The term sailing day as applied to railroads is a misnomer, but it was meant to express the idea that package freight would leave on a particular day, as a ship sails on a definite date announced in advance. The purpose of the sailing day plan was to secure a heavier loading of cars, and to reduce the congestion at former transfer points. The advantages of the plan were conceded by the railway managers; indeed some of them had made use of it in the prewar period.

(7) *Solid Trainloads.* The Railroad Administration, whenever practicable, made up solid trainloads of particular commodities, and shipped them direct from the point of origin to the point of destination. Among the principal commodities thus assembled

from time to time were grain, flour, live stock, packing house products, cotton, fruit, oil, lumber, and steel. This arrangement expedited the movement of essential freight. Prior to the war it had been employed to some extent by the individual railroads, but it was more feasible under unified operation because the traffic that was formerly divided among several roads could be concentrated by the government on one. There are limitations, however, to the use of the practice, due to the fact that the most economical trainload by one road is not necessarily the most economical by another. Yet during the war the government was not interested in economy so much as in expedition. That the plan enabled the Railroad Administration to move the traffic more promptly was a sufficient justification for its adoption.

(8) *Permits for the Shipment of Freight.* Nearly all of the foregoing measures had as their object the movement of more tons of freight. They did not, however, enable the Railroad Administration to handle all the traffic offered to it, and could not well have been expected to. Indeed, in time of war it is not desirable to transport every article that a shipper may offer for transportation; it suffices to transport the articles that are essential to the war program and to the maintenance of civilian morale. The Railroad Administration introduced the permit system as a means of ensuring the movement of essential traffic, all priority and preference orders having been suspended at an early date. Under the permit system, which applied mainly to export traffic and in lesser measure to domestic shipments within the congested districts, the railroads were not allowed to accept freight shipments without a permit from the car service section of the division of operation of the Railroad Administration; and the permit was not issued unless the consignee was able to unload the goods promptly. The permit system was opposed by many shippers, on the ground that it was essentially an embargo. So it was, but it accomplished the purpose for which it was designed—the movement without serious congestion of the more essential traffic. The Railroad Administration maintained that the permit system had fully justified itself; indeed it attributed the marked improvement in operation under federal control in large measure to the successful employment of this device.

(9) *Bituminous Coal Zone Plan.* This was a plan adopted by the Railroad Administration and the Fuel Administration to

avoid cross hauls in the transportation of bituminous coal, the largest single item of railway traffic. By the system of coal distribution evolved under competitive conditions many consuming areas were securing their coal from distant producing districts, despite the fact that equally good coal could have been had nearer at home. Whether or no such a burden on railroad facilities should be sanctioned in times of peace, it was inexcusable during the national emergency. Accordingly a plan was adopted whereby the coal produced in certain mining districts was assigned for distribution to certain consuming districts, the object being to eliminate unnecessary transportation. The zone plan of distribution was enforced by the coöperation of the two administrations. The Fuel Administration, with authority over the distribution of coal, prohibited its movement except to the proper zone; and the Railroad Administration supplemented this prohibition by the necessary embargoes. This plan did not apply to all coal—it did not apply to railroad coal, for example—and provision was made for exceptions with the approval of the Fuel Administration. It worked very well, however, and lightened measurably the task of the Railroad Administration.

(10) *Standardization of Freight Cars and Locomotives.* When the government took over the railroads there were reputed to be over 2000 styles of freight cars, and nearly as many styles of engines. Practically every railroad had its own specifications, and these were usually changed in some respect when additional equipment was ordered. The railroads agreed that a greater degree of standardization was desirable, and had been working toward that end; but had found it difficult to secure an agreement upon the types to be chosen as the standard. The Railroad Administration, not being obliged to secure an agreement among hundreds of railroad companies, adopted twelve standard types of freight cars, and six standard types of locomotives of two weights each. The advantages of this new policy were threefold: (1) it greatly reduced the time required to prepare drawings and patterns; (2) it permitted quantity production, in which this country is preëminent; and (3) it provided equipment with interchangeable parts, thus reducing the number of repair parts required. Relatively little objection was made to the standardization of freight cars. These cars travel all over the country, and are often repaired by the nonowning roads. Therefore there is a

decided saving in time and money if the cars and their repair parts are standardized. Locomotives, however, rarely leave the home tracks. They can therefore be built with sole reference to the needs of the owning railroad; and it is not necessary for other roads to keep a supply of repair parts for them. The objection to the standard types of locomotives was that they were not adapted to local conditions. In some cases they were not sufficiently powerful for the load; in other cases they were too powerful. In other words economy in production was secured at the expense of economy in operation. The objection undoubtedly has weight, yet undoubtedly also the types of locomotives in use theretofore were more numerous than was required for efficient operation.

(11) *Miscellaneous.* The Railroad Administration opened, in practically all of the larger cities, consolidated ticket offices, where the traveling public could secure railroad and Pullman tickets by any route. It introduced a universal mileage book good on any government-controlled railroad, thereby reducing the congestion at the ticket offices, and saving the time of the traveler. It discontinued the solicitation of freight and passenger traffic. It stopped all advertising designed to stimulate traffic, or to attract it from one road to another. It centralized the purchase of locomotives, cars, rails, and ties. It insured its own risks, thereby saving the difference between the premiums and the fire losses. It effected numerous economies in accounting, these being made possible by the fact that the railroads were under a unified control. For example, the payment of *per diem* (daily rental for cars belonging to one road and used by another) was abolished. Finally—the list is not intended to be complete—it developed the inland waterways of the country, though it did not get very far with this program before hostilities came to an end.

The Director General could not hope to reap the full fruits of these policies without the support of an adequate force of contented employees. At the beginning of his administration, however, the force was neither adequate nor contented. It was inadequate, because many railroad employees had left the service to join the army, or to obtain the higher wages paid in the war industries. It was discontented, because the wages of railroad employees were low as compared with the wages in other industries,

and as compared with living costs. The general price level had increased rapidly during 1917, and as a result the purchasing power of railroad wages had greatly declined. At the close of 1917 the railroads, while still under private management, had been confronted with demands for higher wages; but they had refused to meet these demands, despite the fact that they conceded the justice of an increase, because of the inadequacy of their earnings. The acute labor situation in December, 1917, was without a doubt one of the reasons why President Wilson decided upon government operation, though he made no reference to the labor situation in giving the reasons for his decision. The formulation of a sound labor policy was therefore one of the first duties of the Director General. Following a series of conferences with labor leaders, Mr. McAdoo announced on January 4, 1918 (just one week after government operation began) that he would appoint a commission of four to investigate the wages of railroad employees; and that any increases granted would be effective from January 1, 1918. The Railroad Wage Commission, as it was called, was appointed on January 18, its chairman being Mr. Franklin K. Lane, formerly a member of the Interstate Commerce Commission, but then Secretary of the Interior. Shortly thereafter, on February 9, Mr. McAdoo created the Division of Labor as a part of his central organization at Washington. At the head of this division he placed Mr. W. S. Carter, president of the Brotherhood of Locomotive Firemen and Enginemen. The establishment of this division on an equality with the other divisions and the choice of a brotherhood head as its director were very comforting to the railroad employees as an augury of the sympathetic attitude of the Director General; and contributed in no small measure to induce them to await patiently the report of the Commission.

The report of the Railroad Wage Commission was made on April 30. The Commission reported that the wages of railroad employees were quite inadequate. It found that the monthly rates of pay (not counting overtime or extra service) during December, 1917, were $75 or less for fifty-one per cent of the employees; $100 or less for nearly eighty per cent; and $150 or less for ninety-seven per cent.[1] Only three per cent (not counting

[1] The inadequacy of these wage rates becomes even clearer when account is taken of the fact that the general level of prices was higher in December, 1917, than it is to-day (1923).

railroad executives) had a rate of pay in excess of $150 per month. The general impression that railroad employees were among the most highly paid workers was declared to be without basis in fact. The Commission therefore recommended an increase in wages averaging about 16 per cent, and estimated to aggregate $300,000,000.[1]

The recommendations of the Railroad Wage Commission were adopted, with a few exceptions, in the order of the Director General, dated May 25, 1918, granting an increase in wages effective from January 1. In one important regard, however, the Director General acted counter to these recommendations. The Wage Commission had been requested by the employees to approve the eight-hour day, then enjoyed by certain classes of railroad employees, notably those in the train service, but not applicable to the great mass of railroad men. The Commission had reported adversely on this matter, maintaining that the war period was not a suitable occasion for a change in this regard. Mr. McAdoo agreed that it would not be practicable at that time to reduce the hours of labor to eight in every line of work, but he declared that the principle of the basic eight-hour day was just, and accordingly he accepted the principle as applied to all classes of railroad employees. Progress toward its realization in practice was made from time to time by subsequent orders of the Director General.

In the order increasing wages and conceding the principle of the eight-hour day provision was also made for a new tribunal to take the place of the Railroad Wage Commission, which went out of existence with the completion of its report. The name of the new body was the Board of Railroad Wages and Working Conditions. This board, which was composed of three representatives of the management and three representatives of the men, was to consider such applications for changes in wages and working conditions as might be presented from time to time. The board was purely advisory, its recommendations being submitted to the Director General for final action. As the result of its recommendations Mr. McAdoo, throughout the balance of his administration, granted a number of concessions to the employees. The shopmen, in particular, received favorable treatment. They were given a second substantial increase in

[1] Later estimated by Director General Hines at $360,000,000.

wages, and in addition punitive rates for overtime. For all hours over eight, including work on Sundays and certain holidays, they were to be paid the regular hourly rate, plus fifty per cent. This concession, the first of its kind to be granted by the Railroad Administration, was not made to prevent overtime, because many of the shopmen, at the request of the Director General, worked a seventy-hour week until the signing of the armistice. It was made because the demand for skilled mechanics in the war industries was so great that the Railroad Administration was obliged to resort to extreme measures to retain its force.

In addition to the aforementioned board, which was to make recommendations for *changes* in wages and working conditions, the Director General set up three railway boards of adjustment, which were to pass upon controversies or grievances arising out of the interpretation or application of *existing* wage schedules and agreements. These controversies were to be settled whenever possible by the local representatives of the railroads and the men, but if these representatives could not reach an agreement the dispute was to be referred (through the Division of Labor) to the appropriate adjustment board, the decision of which was to be final. The three adjustment boards were bipartisan; containing representatives of the management and of the railroad unions in equal proportion. The first of these adjustment boards handled disputes between the railroads and the engineers, firemen, conductors, trainmen, and yardmen. It was organized on March 22, 1918, superseding a similar body created to interpret the award of March 19 of the previous year,—an award which had brought to an end the threatened strike of the train service employees.[1] The second adjustment board was created on May 31, to handle disputes between the railroads and the shop crafts. The third was established on November 13 (two days after the signing of the armistice), to handle disputes affecting the telegraphers, switchmen, clerks, and maintenance of way employees. Each adjustment board was created under an agreement between the regional directors and the brotherhood chiefs, by virtue of which agreement it was obligatory upon the parties thereto to submit to the appropriate adjustment board all controversies that could not be adjusted locally. Controversies between the railroads and the unorganized employees (or organized employees not parties to an

[1] Cf. p. 431.

agreement for the creation of an adjustment board) were referred to the Division of Labor. The adjustment boards were very successful in settling disputes,—so successful indeed that provision was made by the Esch-Cummins Act of 1920 for the voluntary creation of similar boards.

Director General McAdoo adopted other policies that met with the enthusiastic approval of labor. He early ordered that no railroad employee should be discriminated against because of membership or nonmembership in a labor organization. This order (of February 21, 1918) was immediately followed by the organization of many railroad workers, notably those employed by railroads that were opposed to the recognition of unions. He effected the elimination of piece work, which the railway executives stoutly maintained conduced to increased output, but which was objectionable to labor leaders. With his approval decided progress was made toward a standardization of wages and working conditions; indeed his annual report on Labor stated that the work of the Board of Railroad Wages and Working Conditions was tending to produce standardized rates, days, and conditions of employment for all employees on federal railroads. Standardization is favored by the employees, as we showed in a previous chapter, and opposed by the executives.

The sympathetic attitude of Mr. McAdoo toward railway labor and the frequent manifestation thereof given by his several labor policies soon won for him the cordial support of the railway workers. The morale of railroad labor became good; and labor disturbances were notable for their absence. A number of these policies did not meet with the approval of the railway executives, but during the war criticism was withheld in large part. With the termination of government operation, however, the executives engaged in bitter controversies with their employees over the restoration of prewar conditions of employment.

To meet the increased wage bill resulting from the order of May 25, and the increased expense of supplies and equipment due to rising prices, the Director General, on May 25, ordered an advance in both freight and passenger rates. Freight rates were increased approximately 25 per cent on the average; the minimum charges on carload and less than carload shipments were raised; and reduced export and import rates were cancelled. Passenger rates were advanced to a minimum of three cents per mile; commutation

fares were raised ten per cent; and a charge of one-half cent per mile was imposed on transportation in parlor cars and standard sleeping cars, this charge being in addition to the regular parlor and sleeping car fare. The new passenger rates were put into effect on June 10; the freight rates on June 25.

The increased charges were applied to both the state and interstate traffic of railroads under federal control. It was supposed that the new rates would increase revenues sufficiently to offset the increased cost of operation, but this assumption was admitted to be conjectural merely. The higher rates elicited a great deal of criticism, partly because they were made higher, and partly because the advance was horizontal, and therefore disturbed existing rate relationships. To reduce justifiable criticism to a minimum the Railroad Administration in July established three general freight traffic committees, with jurisdiction over the three major classification territories, and a number of district freight traffic committees, with headquarters in the leading cities of the various regions. Both the general and the district committees contained representatives of the shipping public as well as of the railroads. To the district committees shippers and others might make complaint with regard to rates and regulations. These complaints were considered by the district committees, the members of which were naturally familiar with local conditions, and then passed on, with recommendations, to the general committee of that territory. The recommendations of the general committee, in turn, were transmitted to the Railroad Administration at Washington. Through the aid of these traffic committees the Administration was able to correct numerous inequitable adjustments, and thereby to establish more amicable relations with the shippers and the general public.

Having described the policies of the Director General during the first year of government operation, we may briefly appraise the operating and financial results. So far as operation is concerned, the performance of the Railroad Administration was praiseworthy. When the railroads passed under the control of the government traffic was seriously congested; and a breakdown was impending. Despite an unusually severe winter the Administration succeeded in practically clearing up the congestion by the end of April. During the course of the year it transported over 7,000,000 troops with promptness and efficiency, and moved an enormous volume of war

traffic without serious congestion. Statistically stated, the ton miles (number of tons moved one mile) in 1918 were 1.8 per cent greater than in 1917 (the previous record year), with a decline of 2.5 per cent in the mileage traveled by freight trains, and of 2.1 per cent in the mileage traveled by freight cars. The volume of traffic was thus somewhat greater than in 1917, yet not markedly so. The real achievement of the Railroad Administration was not the handling of an unusually large volume of traffic, but the expeditious handling of such traffic, military and industrial, as was essential to the effective prosecution of the war. Through the permit system the movement of necessary freight was assured, and it is by this criterion primarily that the record of the Railroad Administration should be judged. The shippers of certain articles were deprived of accustomed privileges and suffered considerable inconvenience, but these are to be reckoned as part of the inevitable costs of war. Though opinions differ widely as to the success of government operation, we may safely accept the conclusions of Judge R. S. Lovett, head of the Union Pacific Railroad, and during the war Director of the Division of Capital Expenditures of the Railroad Administration. Writing in 1919, after he had resigned his position with the Railroad Administration, and returned to the Union Pacific, he said: "The prime object, and, indeed, the only legitimate object of government control during the war, was to provide the transportation necessary for the war; and this object was accomplished with *very great success.*" [1]

The financial results were not so satisfactory. The railway operating income in 1918 of the roads under federal control was nearly $250,000,000 [2] under the guaranteed rental (the average railway operating income for the three years ending June 30, 1917). The difference had to come, of course, out of the public treasury. The deficit is easily explained. It was principally due to the fact that most of the wage increases were made retroactive to January 1, whereas the rate increases were effective for only half of the year. The government could give back pay to the employees, but it could not collect higher rates on the goods already shipped. Had the scale of rates effective during the second half of the year been

[1] *Journal of the National Institute of Social Sciences*, 5, p. 60. Italics supplied by the author.

[2] This figure includes the operations of the sleeping car lines, steamship lines, and inland waterways.

in force throughout the whole of the year there would have been no deficit, but on the contrary a considerable surplus. That the deficit was as large as $250,000,000 was due, moreover, to the fact that the railroads had to be operated with less experienced employees, especially in the mechanical departments, and to the fact that the Railroad Administration conceived it to be its duty to move the traffic expeditiously, whatever the expense. The policy of not counting the cost was followed by all the other war organizations, for example, those responsible for the building of steamships, only the losses sustained here amounted to billions rather than merely two hundred and fifty millions. The truth is that in time of war cost considerations are properly regarded as relatively unimportant; the true test of success is whether the organization delivers the goods. And that the Railroad Administration delivered the goods more satisfactorily than would have been possible under private operation is, in our opinion, quite clear. From this standpoint, then, government operation during 1918 must be considered a success.

Operation after the War

The second period of government operation extends from the signing of the armistice on November 11, 1918, to the return of the railroads to their owners on March 1, 1920. During the first two months of this period Mr. McAdoo retained his position as Director General, but as early as November 22 he announced his intention to resign on January 1, 1919, or upon the appointment of his successor. As his successor President Wilson designated, on January 11, 1919, Mr. Walker D. Hines, then Assistant Director General.

The task of Mr. Hines was quite different from that of Mr. McAdoo, and a much more thankless one. Mr. McAdoo's job was to operate the railroads so as to deliver the maximum of transportation service with the minimum of delay. This was indeed a herculean task, upon the successful performance of which the outcome of the war largely depended. Yet because of the very critical character of the military situation Mr. McAdoo was vested with such freedom of action as is seldom accorded to any one in times of peace. Moreover, by appealing to patriotism he was able to enlist the effective coöperation of the railway executives, the employees, the shippers, and the general public.

Mr. Hines' job, on the other hand, was to furnish an adequate and convenient transportation service at a reasonable cost; and to supply it to a public that was impatient and hostile because in the full throes of a reaction from the sacrifices of the war period. Though both Mr. McAdoo and Mr. Hines recommended that Congress extend the period of federal control for five years, [1] in order that there might be a test of government operation under normal conditions, it became clear early in 1919 that Congress (and apparently the majority of the people) were determined that government operation should come to an end at the earliest possible date. In May President Wilson definitely announced that the roads would be returned to their owners on January 1, 1920.[2] During the year 1919, therefore, there was much popular interest in the "solution" of the railway problem; and relatively little popular interest in the administration of the railroads during the interim period. Foreseeing the restoration of private operation many of the railway executives resigned their positions with the Railroad Administration, and returned to their former places. For example, during 1919 there were appointed six new directors of divisions and two new regional directors. The experience of the Railroad Administration in this regard was no different from that of the other war organizations, but its injurious effect upon the railway service was none the less pronounced. As regards the employees, they conducted an active campaign during 1919 for government ownership with private operation. Yet they did not let their agitation for the Plumb plan,[3] as it was termed, interfere with their insistent demands for higher wages (to meet the increased costs of living) and for improved working conditions. Indeed a large portion of the troubles of the Railroad Administration during 1919 were those arising out of the threatening labor situation. Again, the traveling and shipping public, which had suffered certain inconveniences during the first year of government operation, vehemently demanded the return of former privileges and services. During the war period they had refrained from giving full voice to their grievances, but with the passing of the emergency they no longer exercised restraint. Finally, the state regulating commissions, which had been thrust into the background during the war, de-

[1] Cf. pp. 481, 485.
[2] The date was later extended to March 1.
[3] Cf. p. 491.

manded the return to them of their former powers. Because of the attitude of the politicians, the railway executives (that is, those not connected with the Railroad Administration), the employees, the travelers, the shippers, and the state commissioners Mr. Hines had a very trying time; and he deserves great credit for the faithfulness with which he stuck to his stupendous task.

In view of the changed conditions and the changed public sentiment the policies inaugurated by Mr. McAdoo were substantially modified during Mr. Hines' administration. The curtailment of passenger service during the war had stirred up considerable opposition. Promptly upon the signing of the armistice, therefore, much of the earlier service was restored, and on December 1 the parlor and sleeping car surcharge was removed. The policy of improving service so far as possible was continued throughout 1919. The results were by no means entirely successful, however, due to the fact that passenger traffic in 1919 broke all records, and to the further fact that the Administration was unable, from lack of funds, to secure additional passenger and sleeping car equipment. The devices employed during the war to control the flow of freight traffic were vigorously opposed by the shippers, now that the war was over. The Administration in response to this sentiment abandoned some of these devices, for example, the solid trainload plan, and the bituminous coal zone plan. Other policies it pursued with less vigor, for example, demurrage rates were reduced, and short routing was employed to a lesser extent. Some policies, however, were continued, notably the permit system, the unification of terminals and equipment, and the consolidated ticket offices. The shippers were further mollified by being given an equal representation with the management on the freight traffic committees, the function of which was to consider proposed changes in rates and rules.

The relations with the state commissions (and with the shippers and travelers also) were improved by the creation of a separate division of public service, of which Mr. Max Thelen was made director. As Mr. Thelen had recently been president of the California Railroad Commission and of the National Association of Railway Commissioners, his appointment was agreeable to those who were alarmed at the extension of federal power. Though the Director General retained full jurisdiction

over intrastate rates throughout the remaining period of federal control, the state commissions were in increasing measure allowed to exert authority over local matters not involving rates. Moreover, as regards rates the directors of the divisions of traffic and public service were instructed by the Director General to consult the appropriate state commissions before sanctioning any rate increases, whether intrastate or interstate. The attitude and activities of the division of public service contributed markedly toward an improvement of the relations between the Railroad Administration and the state commissioners, as well as between the Railroad Administration and the shipping and traveling public.

The labor situation during Mr. Hines' administration of the railways was very acute. This was not at all because he was unfriendly to labor, because such was not the case. In accepting the appointment as Director General he expressed his intention of giving labor a square deal, and of according to it a sincere and cordial recognition of its partnership in the railroad enterprise. That he felt keenly his responsibility to the employees and endeavored to act justly toward them there is little reason to doubt. Indeed they secured from him concessions of great consequence, as will shortly appear. None the less discontent was rife, due in large measure to the rising costs of living and to the unusually high level of wages paid in other industries. To meet the increased living costs he granted, in April, 1919, higher wages (and more favorable working rules) to the train service employees and a number of less important groups. In making this advance he announced that the war cycle of wage increases was completed; and that further increases would not be considered except upon the basis of new developments. The great majority of the employees, however, felt that the advances received were not proportionate to the higher cost of living, and accordingly they presented further demands. The dissatisfaction was probably greatest among the shopmen, who had not participated in the recent advance. In August they went out on an unauthorized strike, that is, a strike not sanctioned by the union officers. President Wilson intervened in the controversy, and instructed Mr. Hines not to consider the grievances of the shopmen until they returned to their places. The shopmen were finally persuaded by their leaders to return, but they failed to secure the relief they requested. Some readjustments were made to

eliminate inequalities in treatment, but only a fraction of their demands was granted. The President took the position with respect to their demands and the pending demands of nearly all other classes of railway labor that no general wage increases should be given until there had been an opportunity to determine whether the cost of living was to remain at the prevailing high level. The government was then conducting a campaign through the Department of Justice against profiteers, and the President insisted that the employees withhold their demands pending the outcome of this campaign. The campaign bore little fruit, as might have been expected. Though wholesale prices fell slightly in September, by the end of the year they were higher than they had been in August. The demands were therefore renewed in February, 1920, but without success. The President pointed out that a bill (the Esch-Cummins bill) was about to be passed to provide for the return of the railroads to their owners; and he maintained that the employees should present their demands to the Labor Board (with power to fix wages) that was to be created under the provisions of this bill. Dissatisfied though they were, the employees felt compelled to abide by this decision. The subsequent developments in this controversy came after government operation had terminated, and they will therefore be discussed in a later chapter.

During Mr. Hines' administration national agreements, establishing uniform working conditions for certain groups of railway labor, were entered into. The train service employees, by virtue of their powerful organizations, had been able to secure a large measure of standardization of wages and working conditions prior to federal control, but the other unions, not being so effectively organized, had not. The shopmen, for example, worked under different conditions, according as to the road by which they were employed; and it was not uncommon for them to move from one road to another to improve their position. This state of affairs, which was objectionable to the workers, had been dealt with by general orders of the Railroad Administration in 1918, but the new status resulting from these orders was clinched for the shopmen by the incorporation of the new rules (and some others) in a national agreement, applying throughout the country regardless of local conditions, effective on October 20, 1919. Similar agreements followed with the Brotherhood

of Maintenance of Way Employees, the Brotherhood of Clerks, Freight Handlers, Express and Station Employees, the Brotherhood of Stationary Firemen and Oilers, and the Brotherhood of Railroad Signalmen. All of these agreements were negotiated after President Wilson had announced his intention to restore the railroads to private operation, and three of them were signed after the President had issued his proclamation of relinquishment. The railroad executives took the view that this was an unwarranted imposition upon them of arrangements that were repugnant to them, and as a result a most bitter controversy was subsequently waged over this issue. This controversy will be outlined in due course.

The financial results of government operation were even less favorable in 1919 than in 1918. Whereas the railway operating income in 1918 was nearly $250,000,000 less than the guaranteed rentals, during the twenty-six months of federal control (January, 1918–February, 1920) it was, so Director General Hines estimated in April, 1920, $900,000,000 less.[1] Moreover, Mr. Hines' estimate, though undoubtedly the best that could be made at the time, subsequently proved to be too low. Though it is not possible as yet to state a final figure, Director General Davis, in charge of the liquidation of the affairs of the Railroad Administration,[2] estimated in November, 1923, that the total deficit during the period of federal control would approximate $1,200,000,000.

What is the explanation of the enormous deficit during the reconstruction period? The matter is important, since the financial showing of the Railroad Administration is often used as an argument against government operation in normal times. The existence of a deficit means, of course, that the expenses, including the guaranteed rentals, were less than the revenues. Why was this the case? Let us analyze the expenses and revenues separately. The expenses were greater than ever before, partly

[1] This figure of $900,000,000 includes the operations of the sleeping car lines, steamship lines, inland waterways, and express business. Cf. note on p. 466.

[2] Mr. Hines resigned as Director General on May 15, 1920, and was succeeded by Judge John Barton Payne, the Secretary of the Interior. Following his retirement as Secretary of the Interior on March 4, 1921, Judge Payne resigned as Director General. As his successor, President Harding appointed Mr. James C. Davis, the general counsel of the Railroad Administration.

because of the increased wage bill. The Railroad Administration was bitterly criticized because of the level to which it raised wages, but the criticism was unfounded. The average increase in the wages of railroad employees, measured by hourly rates, was slightly over 100 per cent, as compared with the prewar period; and since the workday was shorter, the increased earnings per day or month did not average 100 per cent.[1] The increase in railway wages was no greater, if as great, than in other industries, and it was less than the increase in the prices of commodities. The aggregate was enormous, to be sure, but this was because of the large number of railway employees. That the Railroad Administration was not unduly liberal in its wage policy is indicated by the fact that the Railroad Labor Board, empowered by the Esch-Cummins Act to establish just wages, awarded in July, 1920, an increase in wages estimated to aggregate $600,000,000 annually. The expenses were abnormal, also, because of the high prices of materials and supplies. Though wholesale prices fell for a time after the signing of the armistice, they were higher in June, 1919, than they had been in December, 1918, and much higher in February, 1920, than at any time in 1918.[2] No critic of government operation, however bitter, could well venture to hold the Railroad Administration responsible for this increase in operating costs. Undoubtedly, also, the expenses were abnormal in 1919 because of the transitory character of government operation. It was generally recognized that the existing arrangement was a temporary one. Would it be surprising, then, if the organization declined somewhat in efficiency, and if the morale of the employees suffered? Clearly the test was not a fair one for government operation as a permanent policy. These observations are made, not at all to establish the merits of government operation—as to that we will say more later—but to assist the reader in appraising the experiment fairly.

The expenses were large, it has been urged, because the guaranteed rentals were excessive. The guaranteed rentals—called the standard return—were based on the results for the three years ending June 30, 1917. Whether the standard return was excessive would appear to depend on whether these three years were normal

[1] Report of Director General Hines to the President, February 28, 1920, p. 19.

[2] These prices are taken from the reports of the Department of Labor.

ones. As to this, the 1915 fiscal year was an unusually bad one, and the 1916 and 1917 fiscal years were unusually good ones. Though opinions differ upon the point, the author regards the standard return as liberal rather than otherwise. Yet even if this be granted, it is still true that the excess, if any, was altogether too little to explain more than a relatively small portion of the 1919 deficit. Moreover, since the standard return was about the same in 1919 as in 1918,[1] it does not explain at all the relatively poor showing in 1919. For two months of the period of federal control, however, the standard return was undoubtedly excessive. Government operation came to an end on March 1, 1920. For the first two months of 1920 the railroads were paid, as provided by the Federal Control Act, a sum equal to two-twelfths of the annual rental. As the railroads do not normally earn two-twelfths of their income in these winter months, they profited handsomely by being paid on a pro rata basis. According to Mr. Hines this arrangement explains $49,000,000 of the government deficit. For this loss Congress—not government operation—must be held responsible.

Coming to revenues, these were naturally somewhat greater in 1919 than in 1918, because the rate increase of June, 1918 applied through all of 1919, whereas it applied to only about half of 1918. Nevertheless the revenues were not proportionately greater. For this there are several explanations. In the first place, there was a pronounced slump in freight traffic during the first half of 1919, while business was adjusting itself to peace-time conditions. This was inevitable, no matter what agency ran the railroads. Though traffic picked up well during the second half of the year, the total in 1919 was about 10 per cent less than during the preceding year. Since the railroad industry is one of increasing returns, operating expenses did not decline in proportion to the decline in traffic. Again, a nation-wide strike of the soft coal miners was called on November 1, the effect of which was to reduce greatly railroad revenues, as well as to increase railroad expenses (through the use of more costly and less satisfactory coal). Such untoward factors as these, though worthy of mention, are not sufficiently unusual in railway operation, however, to justify the financial record of the

[1] It was not exactly the same, because the railroads were allowed, by the Federal Control Act, an annual increase in the just compensation equal to a reasonable return upon the cost of additions and betterments made at their expense.

Railroad Administration. The real explanation of the inadequacy of the revenues is the failure to raise rates in proportion to the increase in wages and prices. That rates were not high enough to make the roads self-sustaining is shown by the circumstance that the Interstate Commerce Commission, shortly after government operation ended, advanced freight rates by percentages varying in the different parts of the country from 25 to 40 per cent, and advanced passenger rates by 20 per cent.[1] These new rates were estimated to yield $1,500,000,000 in additional revenues. If such an enormous increase was necessary in the summer of 1920 to enable the railroads, while in private hands, to realize adequate earnings (equal, for example, to the standard return), does it not seem reasonable to hold that the primary cause of the deficit sustained during 1919 was the low level of railway rates?

Granting this to be true, the query arises as to why Director General Hines, with full power over rates, did not raise them sufficiently to prevent a deficit. The principal reason seems to have been his unwillingness to add to the economic maladjustment. The general level of prices, after declining moderately during the first half of 1919, advanced rapidly during the second half. This was the era of the "wicked profiteer." There was much complaint because of the rapidly mounting cost of living; and the government could not well make matters worse by sanctioning an increase in railroad rates, which would naturally contribute to a further advance in prices. Moreover, the railway employees, dissatisfied with the wages they were receiving, could not consistently be asked to withhold their wage demands until an opportunity had been had to ascertain the future course of prices, if the administration permitted railroad rates, and thus prices, to be advanced still further. Furthermore, there was the probability that the attempt to raise railroad rates would have led to legislation depriving the Railroad Administration of its rate making powers. Such a bill actually passed Congress in November, 1919, but it was vetoed by the President. Whatever else may be said, an increase in railroad rates in 1919 seems to have been politically inexpedient.

With regard to the deficit sustained by the government in the operation of the railroads, it should be noted that the cost to the public of railway transportation is not dependent upon whether there is a deficit or not. Conceivably the Railroad Administration

[1] Cf. p. 567.

might have raised the rates high enough to show a profit, and thus have avoided the odium of losing money. Yet the public would have had to pay in the one case as well as in the other. Had the rates been raised sufficiently to make the railroads self-sustaining, it would not have been necessary to make up the deficit by taxation or borrowing; but the higher freight rates would have led to increases in the prices of the commodities transported at the higher rates, and the public would have sustained an equal, if not a greater, burden. The Railroad Administration therefore adopted the policy of making only a moderate advance in rates, and of meeting the deficit out of public funds. This would not be a proper procedure under normal conditions, since the railroads should be self-sustaining, no matter by whom owned. But it may have been the wiser policy in the war and postwar period to accept the losses as part of the costs of war, and to pay for them like other war costs.

The results of government operation have been fairly summarized by Director General Hines as follows:

"It made practicable a war transportation service that could not have been otherwise obtained; its unification practices have increased the utilization of the inadequate supply of equipment so that an exceptionally large transportation service has been performed in the busy periods of 1919 with a minimum of congestion; it met the emergency of the unprecedented coal strike in a way which private control could not have done and absorbed a heavy financial loss on that account which would have proved highly disturbing to private control; it provided more additions and betterments and equipment than private control could have provided during the difficult financial period of 1918 and 1919; it dealt fairly with labor and gave it the benefit of improved and stabilized working conditions which were clearly right; it not only did not cost more than private control would have cost during the same period but cost considerably less on account of the economies growing out of unifications, and the total burden put upon the public (through rates and taxes) on account of railroad costs was substantially less than would have been necessary if the railroads had remained in private control and rates had been raised enough to preserve their credit; it protected the investment in railroad properties, whereas without Federal control those investments would have been endangered; and it turns the railroads back to private control

functioning effectively, with a record of exceptional performance in an exceptionally difficult winter, despite the disruption caused by the coal strike, and in condition to function still more effectively with the normal improvement to be expected in the weather and in other conditions." [1]

REFERENCES

CUNNINGHAM, W. J.: *American Railroads*, chs. 4–20 (1922).
DIXON, F. H.: *Railroads and Government*, chs. 9–14 (1922).
HINES, WALKER D.: *Report to the President*, February 28, 1920.
MCADOO, W. G.: *Report to the President*, September 3, 1918.
——: *Annual Report for 1918* (on Labor). A copy is in Hearings on Extension of Tenure of Government Control of Railroads, 65th Cong., 3rd Sess., pp. 201–226 (1919).
RAILROAD WAGE COMMISSION: *Report to the Director General of Railroads*, April 30, 1918.
SHARFMAN, I. L.: *The American Railroad Problem*, chs. 4–5 (1921).
THELEN, MAX: "Public Service under Government Operation of the Railroads," *Annals of the American Academy of Political and Social Science*, vol. 86, pp. 17–34 (November, 1919).

[1] Report of Director General Hines to the President, February 28, 1920, pp. 45–46.

PART VI
RAILROADS AND RECONSTRUCTION

CHAPTER XXIII

PROPOSED SOLUTIONS OF THE RAILROAD PROBLEM

The signing of the armistice on November 11, 1918, brought to the fore the question as to the proper policy to be pursued with regard to the railroads. Though it was possible under the Federal Control Act for government operation to be continued twenty-one months after the ratification of the treaty of peace, the President early let it be known that he did not expect to avail himself of this privilege. In his message to Congress of December 2 he declared that it would presently become his duty to relinquish control of the railroads, unless there should appear in the meantime some clear prospect of a legislative solution of the railroad problem. The President offered no solution of his own—he was busily making preparations to attend the Peace Conference in Paris—but he expressed the confident conclusion that it would be a disservice alike to the country and to the railroad security owners to return to the old conditions unmodified. That it would not be wise to return to the prewar status was agreed upon all sides, but there was the greatest difference of opinion as to the changes that were required or desirable. As a result during the whole of the remaining period of government operation Congress was flooded with plans for the "solution" of the railroad problem; and out of these plans a legislative policy was finally evolved, and embodied in the Esch-Cummins Act of February 28, 1920. It will be our task in this chapter to describe some of the leading plans, to wit, those of Director General McAdoo, the Interstate Commerce Commission, Director General Hines, the Association of Railway Executives, the National Transportation Conference, and the Railroad Brotherhoods (the Plumb plan). In the succeeding chapter the arguments for and against government ownership and operation as a permanent policy will be considered.

Director General McAdoo

Mr. McAdoo's proposal was first presented on December 11, 1918, in the form of a joint letter to the chairmen of the Senate and

House Committees on Interstate Commerce.[1] His recommendation was an extension of the period of federal control for five years, that is, until January 1, 1924. This extension, he said, would take the railroad question out of politics for a reasonable period. It would also give composure to the railroad officers and employees. So long as it was anticipated that the railroads would shortly be returned to private operation it would be impossible to expect the officers and employees to give complete and single-minded attention to their work; and as a result the public would be injured and the morale of the organization impaired. The extension, moreover, would admit of the preparation and carrying out of a comprehensive program of railroad improvements, which would immensely increase the efficiency of the transportation machine. Without such an extension time and funds would be lacking for the necessary improvements. If the government supplied the funds without the railroads' consent it would undoubtedly experience difficulty in recovering the investment upon the termination of federal control; and if it made no improvements except such as were agreed to by the railroads it would be estopped from making those improvements which were of most value to the public, namely those that disregarded the selfish and competitive interests of the railroads. Finally, the extension would offer the necessary opportunity to test, under normal conditions, the value of unified control. Mr. McAdoo said that in his operation of the railroads he had not been interested in proving or disproving the theory of government ownership or any other theory; his interest had been merely in operating the roads so as to subserve the paramount war needs. He had reached no conclusion as to the best disposition of the railroad problem, because the test had not been sufficient, but in his opinion a five-year test would disclose the solution. Personally he did not believe that the five-year test would result in government ownership, but he regarded the time as a highly propitious one for the experiment.

Mr. McAdoo subsequently elaborated his proposal in testimony before the Senate Committee on Interstate Commerce,[2] but it did not meet with popular favor. The country was in the midst of a

[1] See Official U. S. Bulletin, December 12, 1918, or *Railway Age*, 65, pp. 1051–1053.

[2] Hearings on Extension of Tenure of Government Control of Railroads, 65th Cong., 3rd Sess., I, pp. 3 ff.

violent reaction against war control, and a speedy return to normal conditions was widely demanded. There was a disposition to be unduly critical of the war-time experience with government operation. The deficit of 1918 was regarded as evidence of governmental inefficiency; and an unwillingness was manifested to guarantee the compensation of the railroads for a five-year period. The labor policy of the administration was held to be unduly favorable to labor, and the ability of the government to oppose the continuing demands of the labor organizations mistrusted. It was feared that unified control for an additional period of five years would result in scrambling the railroads so thoroughly that a return to private operation would prove impracticable. The appraisal of the results of government operation was unfair, and the prediction of dire results for the future perhaps unduly pessimistic; but whether it was or not, the general public, and particularly the powers that be, were insistent upon the restoration of private operation as soon as the necessary remedial legislation could be enacted.

Interstate Commerce Commission

The recommendations of the Interstate Commerce Commission were embodied in a memorandum which, having received the approval of all the members of the Commission but one, was presented to the Senate Committee on Interstate Commerce on January 7, 1919.[1] The Commission expressed the conviction that "with the adoption of appropriate provisions and safeguards for regulation under private ownership it would not be wise or best at this time to assume Government ownership or operation of the railroads of the country." Presupposing, therefore, the continuance of the policy of private ownership and operation under governmental regulation the Commission offered a number of suggestions designed to make regulation more effective. It recommended:

(1) The revision of the limitations upon united or coöperative activities among common carriers by rail and by water. Under the policy heretofore followed by the government all efforts to restrict the full play of competition between carriers have been frowned upon or prohibited. Obviously competition between carriers that is wasteful or unnecessarily expensive lays an added bur-

[1] See Hearings on Extension of Tenure of Government Control of Railroads, 65th Cong., 3rd Sess., I, pp. 231–238, or *Annual Report of the Interstate Commerce Commission*, 1919, pp. 1–6. See also *Annual Report*, 1918, pp. 2–3.

den upon the rate payers. Elimination of wasteful or unduly expensive competition in rates or services is desirable, and under the exercise by the government of its power to regulate service and rates carriers might well be permitted and encouraged to coördinate their activities and consolidate their lines to such an extent as is sanctioned by the regulating body. Moreover, this body should have authority to prescribe not only the maximum rate, but also the minimum. This power would restrain an individual carrier from furthering its own ends at the expense of others by unwise and unwarranted upsetting of reasonable rate adjustments.

(2) The emancipation of railway operation from financial dictation. There should be some way to prevent those financial deals whereby railroad properties have been bankrupted, or if not bankrupted at least saddled with almost overwhelming burdens of indebtedness, which have not increased the amount or value of the property devoted to the public welfare, yet have on the whole had the effect of increasing charges. A transportation line operating by virtue of a public grant, and upon which the industrial, commercial, and social life of communities depends, should not be a football of speculation. To this end the terms of the Clayton Act with reference to common or interlocking directorates should be extended to common carrier corporations, even when they are not competitors.

(3) The regulation of issues of securities. The desirability of government regulation of the issuance of securities by public service corporations is generally conceded, and such regulation would go far toward preventing the abuses referred to above.

(4) The establishment of a relationship between federal and state authorities which will eliminate the twilight zone of jurisdiction, and under which a harmonious rate structure and adequate service can be secured, state and interstate. If the government is to assume, as it should, all of the responsibilities that properly go with an amplified and broadened exercise of its regulatory powers, and the regulation is to be adequate, the regulating body must have authority and powers which it has not heretofore had over service and physical operation. The conflict of jurisdiction as between the federal government and the states could probably be resolved through harmonious coöperation, if the federal tribunal was authorized to coöperate with state authorities by utilizing their services in appropriate instances and to an appropiate extent.

(5) The abandonment of the policy of different charges for competitive and so-called noncompetitive traffic, this recommendation being contingent upon the removal or revision of the limitations upon coöperative activities among common carriers by rail and water.

(6) The most efficient utilization of equipment, and provision for distributing the burden of furnishing it on an equitable basis among the respective carriers. Under broad revision of limitations upon coöperative activities among carriers they could form equipment pools, which would add efficiency in the standardization of construction and in the utilization of equipment. Under the extension of authority to the regulating tribunal to require adequate service, carriers that are disposed to shirk their duty could be required to provide themselves with the necessary equipment.

(7) The more liberal use of terminal facilities in the interest of the proper movement of commerce. Here again a relaxing of the restraints upon coöperative activities among the carriers would naturally bring a more liberal use of the existing terminal facilities, and would undoubtedly bring about agreements between competing carriers under which existing terminal facilities could be opened to traffic which is now and heretofore has been excluded.

(8) Restrictions upon the supplying of common carrier facilities and services by shippers or receivers of freight.

Director General Hines

Director General Hines actively supported as a transition measure the proposed extension of federal control for a period of five years, but in testimony before the Senate Committee, on February 4, 1919, he offered a plan for a permanent solution.[1] As a preliminary to his plan he laid down the following fundamental propositions:

(1) There can be no solution through the operation of the railroads by the numerous existing corporations with their widely varying financial structures. The deep-seated suspicion of the public and of labor that there is serious overcapitalization largely negatives all representations as to the propriety of any given level of income. To perpetuate existing capitalizations will defeat any plan, no matter what other good qualities it may have.

[1] Hearings on Extension of Tenure of Government Control of Railroads, 65th Cong., 3rd Sess., I, pp. 900 ff.

(2) No plan can be permanently successful which leaves railroad operations with a large number of different companies, some strong and some weak. So long as this condition exists a level of rates that will provide enough revenue to sustain the weak roads will give the strong roads more than the public is willing for them to have. Whatever level of rates be adopted, the public will be at a disadvantage either through impaired service on the poor roads or through excessive charges on the strong ones.

(3) If any plan of private management is to be successful, it must provide for the participation of the government, and perhaps of labor, in the profits over and above some comparatively moderate return. Otherwise the public (including labor) will always suspect that it is being exploited for the benefit of private capital, and will continually insist upon the railroads being operated exclusively for the public benefit through government ownership and operation.

(4) The people have accepted the principle that the railroads are entitled to a reasonable return, no more and no less. In practice, however, this result is not attained. Rates that are reasonable for some roads are either too high or too low for others; and rates that are reasonable during certain years are unreasonable during others. The logical step is for the government to ascertain the fair return, and to guarantee it. As an incentive to increased efficiency the government could allow a railroad to participate moderately in any profits in excess of the guaranteed return.

(5) The rate of return should be sufficient to attract additional capital. However, the rate could appropriately be relatively low if guaranteed by the government (because of the reduced risk). A government guaranty would create a real, reliable credit instead of one involved in uncertainty.

More concretely, Mr. Hines proposed as a permanent solution the creation of a comparatively few railroad companies, say six to twelve, among which all the railroads of the country were to be parcelled out. These companies should have a capitalization equal to the real value of the property; should enjoy a moderate guaranteed return; and should have the right to a moderate participation in profits in excess thereof. The consolidation of the railroads into these six to twelve companies should be compulsory; if consolidation were optional the strong roads would hesitate to unite with the weak. The consolidation might be by

regions, resulting in the formation of regional railroad monopolies, or it might be by systems. Mr. Hines regarded the former arrangement as preferable. The newly organized companies should be incorporated with a federal charter. The Interstate Commerce Commission should continue as the chief regulating agency, but it should be assisted by a number of regional commerce commissions, say six, one for each of the regional railroad companies. The government should have representation, moreover, on the directorate of the six railroad companies. Tentatively Mr. Hines proposed that each railroad have twelve directors, of whom four should be representatives of the public. He proposed further to utilize the four government directors as a means of promoting a better understanding between the railroads and the regulating commissions, and between the railroads and their employees. Tentatively he suggested that two of the government directors of each railroad be members of the regional commission of that region;[1] that a third be an associate member of the Interstate Commerce Commission, the membership of which would be increased by six for this purpose;[2] and that the fourth sit with the bipartisan board handling labor controversies, in order that the directorate might comprise a public representative in close contact with labor problems. This director was not to serve as an umpire; the settlement of controversies was to be left to the management and the men, with equal representation for each on the bipartisan board.

Mr Hines conceded that it would take several years to work out the details of his plan and to bring about the necessary exchange of securities between the regional monopoly and the railroad companies within its region; and it was largely for this reason that he favored the continuance of federal control until a permanent solution could be evolved.

We have described Mr. Hines' plan because it is interesting and highly suggestive, and not because his proposals were adopted. As a matter of fact the only feature of his plan that was incorporated in the Esch-Cummins Act was the provision for government participation in profits over and above a fair return. The

[1] It was proposed that the regional commission should have five members all told.

[2] The associate members were not to have routine duties as members of the Commission.

act did provide, to be sure, for the consolidation of the railroads into a limited number of systems, but the consolidation was not into regional monopolies, and it was permissive rather than compulsory. None the less the plan is worthy of careful study.

Association of Railway Executives

The plan of the Association of Railway Executives was presented to the Senate Committee on Interstate Commerce on January 9, 1919.[1] This association composed about 92 per cent of the trackage of the country, including all of the large railroad systems except the Southern Railway, and including most of the small ones. It therefore fairly represented the views of the railroad executives. Its plan was put in the form of twenty fundamental principles, of which eleven are noted below:

(1) Private ownership and operation of the railways should be continued.

(2) The power of regulation of the instrumentalities of interstate commerce, as to all matters substantially affecting them, including state rates, should be vested exclusively in the national government, but these national functions should be administered through government agencies responsive to the needs of the people of the several states. The state commissions should not be interfered with, except in so far as necessary to carry out the purposes of the plan.

(3) In order that matters within the jurisdiction of the Interstate Commerce Commission may be dealt with more promptly and satisfactorily, and with a fuller appreciation of all the circumstances and local conditions, the country should be divided into such number of regions as the Commission deems wise; and a regional commission, appointed by the President, should be created for each of these divisions. Each regional commission should consist of one member for every state embraced therein. The regional commissions should have authority to hear and determine complaints arising within their respective territories in respect of matters within the jurisdiction of the Interstate Commerce Commission, with the right of appeal, however, to the Commission.

(4) The Interstate Commerce Commission, heretofore the sole

[1] Hearings on Extension of Tenure of Government Control of Railroads, 65th Cong., 3rd Sess., I, pp. 305 ff., especially pp. 308–312.

federal agency regulating the instrumentalities of interstate commerce, should be relieved from its executive and administrative duties except as to valuation and accounting, and should act as a quasi-judicial body clothed with authority to pass upon rates and discriminations.

(5) The executive and administrative functions of the Commission of which it is to be relieved should be transferred to a Secretary of Transportation, who is to be a member of the President's cabinet.[1]

(6) The statute should provide the rule of rate making, and should require that rates be not only reasonable, but adequate to enable the carriers to provide safe and sufficient service, to protect existing investment, and to attract the new capital necessary in the public interest.

(7) The Commission should have power to prescribe minimum as well as maximum rates.

(8) The federal government should have the exclusive governmental power to authorize the issuance of securities by interstate railroad companies.

(9) All railroad companies engaged in interstate commerce should be compelled to incorporate under a federal charter.

(10) Existing laws should be modified so as to authorize, upon approval of the Secretary of Transportation: (a) acquisition by a carrier of the properties or securities of others, or consolidations of such carriers; (b) agreements among carriers in respect to rates and practices; (c) the division of earnings; and (d) the pooling of cars and other facilities.

(11) Questions of wages and working conditions affecting individual railroads should be settled, if possible, by officers of the railroads and representatives of the employees. A board should be constituted, under the Secretary of Transportation, on which the employers, the employees, and the public should have equal representation, to investigate any controversy which the parties were unable to adjust; and pending the investigation and the report thereon, and for a reasonable period thereafter, there should be no lockout by the carriers and no concerted action by the employees which would have the effect of interfering with the orderly movement of the United States mail or interstate

[1] The plan enumerated in some detail the duties of the proposed Secretary of Transportation.

commerce. The scale of wages recommended by the board, if put into effect, should be recognized in the making of rates as a legitimate expense of transportation.

National Transportation Conference

The National Transportation Conference was called together in December, 1918, by the Chamber of Commerce of the United States. It was designed to be representative of all the interests of the nation affected by transportation—financial, industrial, commercial, agricultural, civic, and social. Documents were presented or addresses made by bankers, manufacturers, shippers, farmers, laborers, railway executives, members of regulating commissions, and economists. The Conference adopted a program of railroad legislation, which was presented to the House Committee on Interstate Commerce on July 23, 1919.[1] Briefly, the program provided for:

(1) The return of the railroads to private ownership and operation as soon as the necessary remedial legislation could be enacted.

(2) The consolidation of existing railroads into strong competitive systems so located that each of the principal traffic districts of the country should be served by more than one system. These consolidations should be effected in accordance with plans approved by a Federal Transportation Board, which should have authority to make consolidation compulsory, if in the public interest.

(3) The bringing of all interstate railroads *as corporations* under the jurisdiction of the United States, either by federal incorporation or in such other manner as Congress might determine, matters of local taxation and police regulation to be reserved to the states.

(4) The exclusive federal regulation of the security issues and capital expenditures of all railroads engaged in interstate commerce.

(5) The exclusive regulation by the Interstate Commerce Commission of all railroad rates and of all rules and regulations bearing thereon that affect interstate commerce.

(6) The creation of a Federal Transportation Board to promote the development of a national system of transportation; to determine the grouping or consolidation of railroads deemed to be in

[1] Hearings on Return of the Railroads to Private Ownership, 66th Cong., 1st Sess., I, pp. 176 ff.

the public interest; to regulate security issues and capital expenditures; and to act as a referee in case of labor disputes.

(7) The adjustment of wages and working conditions of railroad employees by boards consisting of equal numbers of representatives of railroad employees and railroad officers, with appeal in the case of deadlock to the Federal Transportation Board as referee.

(8) The enactment by Congress of a statutory rule requiring that the rate structure established by public authority be designed to yield the railroad companies in each traffic section of the United States aggregate revenue sufficient to produce a net return of not less than six per cent per annum upon the aggregate fair value of the railroad property devoted to the public service in each of the several sections.

(9) The creation of two kinds of contingent funds—an individual railroad contingent fund established by each road out of surplus earnings, if any, upon which it might draw in case its net return in any year fell below six per cent; and a general railroad contingent fund established by contributions from the roads with surplus earnings, this fund to be used to support the credit of all the railroads in the country. By this arrangement the prosperous roads (those earning more than six per cent upon the value of their property) were to share a part of their surplus earnings with the weaker roads, and to keep a part for themselves (as an inducement to efficiency). The general railroad contingent fund was to be managed by trustees appointed by the Federal Transportation Board.

(10) The organization of the board of directors of each consolidated railroad system with twelve members, one to be a representative of the employees of the system, and three to be selected by the Federal Transportation Board to represent the principal interests of the territory served by such system.

Railroad Brotherhoods (Plumb Plan)

The plan of the railroad brotherhoods was presented to the Senate Committee on Interstate Commerce by Mr. Glenn E. Plumb on February 7, 1919.[1] The plan proposed by Mr. Plumb

[1] Hearings on Extension of Tenure of Government Control of Railroads, 65th Cong., 3rd Sess., I, pp. 985 ff. See also Hearings before House Committee on Interstate Commerce on Return of the Railroads to Private Ownership, 66th Cong., 1st Sess., I. pp. 594 ff.

had the unqualified endorsement of the representatives of the fourteen railroad unions as regards its principles, but not as regards its details. The latter were viewed as tentative. The Plumb plan aroused more public interest than any other, and may therefore be considered at greater length.

In brief the Plumb plan provided:

(1) That the government acquire ownership of all the railroads in the country, the purchase price to be determined by the courts. The government was to acquire the properties by exchanging its bonds for the bonds and stocks of the several railroads. The government was also to own all lines subsequently built or extended. Extensions were to be paid for, so far as possible, by the community benefited. If a community was willing to defray the entire cost of an extension the construction thereof was to be obligatory; but the government might build extensions at its own expense whenever they were deemed to be in the interest of the general public.

(2) That the properties be operated by a private corporation organized under a federal charter. This corporation was to have no financial investment in the industry, "its sole capital being operating ability." It was to have a nominal capital stock, all of which was to be held in trust for the benefit of its employees. The latter were to be divided into two classes—the official employees (those exercising executive functions) and the classified employees (those carrying out the directions of the official employees). The corporation was to be controlled by a board of fifteen directors, to be chosen as follows: one-third elected by the official employees; one-third elected by the classified employees; and one-third named by the President of the United States to represent the public. The board of directors was to have power to appoint official employees, and to prescribe the conditions of employment for the classified employees. The board of directors was to be authorized to divide the country into operating districts, and to constitute in each district a railway council, to which the board of directors might delegate such powers as could conveniently be exercised locally. The members of the district railway councils were to be chosen in the following manner: one-third appointed by the board of directors; one-third elected by the official employees of the district; and one-third by the classified employees of the district. Since the employees (official and classified)

dominated the board of directors of the operating corporation it might well happen that all the members of the district railway councils would be employees.

(3) That the government lease the railways to this corporation for operation as a unified system. The lease was to provide that the corporation pay each year: (a) the costs of operation, including such outlays for maintenance and renewals as the government might prescribe; (b) the interest upon the government bonds issued to acquire the properties; and (c) an agreed amount to establish a sinking fund of not less than one-half of one per cent of the outstanding capital account, the fund thus established to be used in acquiring and extinguishing the bonds issued by the government. Any earnings remaining after making the above payments were to be divided equally between the government and the operating corporation. The share of net earnings accruing to the government was to be used for extensions and improvements, or for the increase of the sinking fund. The share accruing to the operating corporation was to be distributed as a dividend upon its payroll, the dividend to each employee to depend upon the ratio of his wages to the total wages paid, except, however, that the rate of dividend for the official employees was to be twice as great as for the classified.

(4) That the Interstate Commerce Commission retain the rate making powers then possessed by it, and in addition any further powers deemed necessary to ensure adequate regulation. To prevent the public from paying excessive rates, and thus allowing excessive profits to the government and the operating corporation, the plan provided for an "automatic reduction in rates." It stipulated that whenever in any year the net profits received by the government equalled or exceeded five per cent of the gross operating revenues, the Interstate Commerce Commission should immediately reduce the level of rates by an amount sufficient to absorb these profits. This proviso was designed to act as an automatic check on the profits accruing to labor, and as an automatic check on operating income in excess of the requirements of operation. It was alleged that every such reduction in rates would tend to increase the volume of traffic, to produce surplus revenues again, and to permit still further reductions in rates.

(5) That disputes arising out of wages and conditions of labor be decided by a central wage board and by three adjustment boards,

each consisting of an equal number of representatives of the official employees and the classified employees. The decisions of these boards were to be final, except in the case of a deadlock, in which case the dispute was to be settled by the board of directors of the operating corporation. In the event that the decisions of these boards, composed solely of representatives of the employees, were not satisfactory, the employees reserved the right to strike.[1]

The advantages of the Plumb plan were alleged to be numerous. They resulted chiefly from (a) the adoption of government ownership; (b) the creation of a national railroad system; (c) the establishment of unified government control; and (d) the realization of the economies of the democratic organization of industry.

As regards (a), the adoption of government ownership was held to be beneficial in two ways. First, it would make possible a large saving in the cost of capital. Because of the superiority of government credit over railroad credit the bonds issued by the government in payment for the properties would bear a lower rate of interest than the fair return on railroad bonds and stocks. The saving that could be realized in this way was estimated at several hundred million dollars. Second, the interest on the government bonds being a fixed sum, and being guaranteed, the owners thereof would not engage in political activity for the purpose of increasing or maintaining the earnings of the railroads, as is the practice under private ownership. This would be the case, since there would no longer be anything to be gained, so far as the security holders were concerned, by bringing pressure to bear on members of the national or state legislatures.

(b) The creation of a national railroad system operated under lease by a private corporation was also held to be advantageous in two major respects. First, there would be secured the economies of unified operation. These include the most effective utilization of facilities, the routing of traffic to the ports best able to handle it, and the elimination of complicated rate schedules and intercorporate accounting, to give but a few examples. Second, the operation of the roads would be taken out of politics just as effectively as railroad capital would be taken out of politics through government ownership. Government operation, it was main-

[1] See testimony of Mr. A. B. Garretson, who was authorized to represent the railroad brotherhoods, in "Extension of Tenure of Government Control of Railroads", I, p. 1092.

tained, is usually accompanied by carelessness in regard to expenditures, but under the plan proposed government officials would have nothing to say with regard to the construction or extension of new lines, or with regard to the employment of railroad officers and employees. Efficient executives and employees would be assured of retaining their positions; and inefficient employees would as surely be eliminated by the demands of the great body of executives and employees who would be directly injured through the retention of inefficient individuals. Political bodies would no longer be subjected to the solicitations of either capital or labor, because they would no longer exert any influence over ownership or operation.

(c) The establishment of unified control over the railroads would follow from their ownership by the government and their operation by a single national corporation. In regulation the federal government would be supreme, and all conflicts between state and federal authority would cease.

(d) Finally, the plan aimed to realize the economies of the democratic organization of industry. It was alleged that the efficiency of operation would be greatly promoted on account of the responsibility of the employees for the results of operation, and on account of the opportunity offered to them to participate in the profits. The vitality of the plan, Mr. Plumb said, was to be found in its provision for democracy of operation. "We would make the railroads the background for the first great experiment in industrial democracy on this side of the Atlantic." [1]

The Plumb plan had its undoubted defects. Probably the most outstanding defect was the fact that the fixing of wages, hours, and conditions of employment was vested in a wage board composed solely of representatives of the employees (official and classified). It was argued that there was nothing in this arrangement to prevent the official employees and the classified employees from combining to increase the wages of both the officials and the men, in which case there would be no surplus to divide. Mr. Plumb's answer to this criticism was that this contingency had been guarded against by giving the official employees twice the rate of dividend given to the classified. He claimed that the official employees would resist wage increases because these would eat into the profits available for distribution in the form of divi-

[1] *Independent*, 99, p. 289.

dends. The answer is far from conclusive. If salaries and wages were sufficiently low to permit of a surplus, one-half of the surplus would perforce go to the government. If, on the other hand, salaries and wages were raised so as to avoid a surplus, the employees could appropriate the entire sum that would otherwise have gone to the government. If the official employees were disposed to resist a grant of higher wages, what would prevent the classified employees from overcoming their resistance by offering them an advance in salary greater than any dividend that they might expect to receive? As a matter of fact, however, the official employees would not be disposed to offer resistance. Under the plan they did not owe primary allegiance to the owners of the railways, but to a board of directors representing the employees, including themselves. They were appointed by the board of directors, or in all likelihood, after the district railway councils had begun to function, by these councils, all the members of which might be employees (both official and classified). If they depended for their appointment and promotion on a council consisting solely of employees, it would only be natural to expect them to coöperate with these employees in such vital matters as wage rates.

In a further endeavor to explain away this vital defect Mr. Plumb pointed out that the plan safeguarded the public rights by giving the government absolute rate making power. Even if the official employees and the classified employees did combine to secure an unreasonable increase in wages, they had not the power to provide the necessary revenue, he said, because control over rates was vested with the Interstate Commerce Commission. This argument would carry conviction, perhaps, if the plan proposed to subordinate the wage bill to other necessary expenses, yet such was not the case. Moreover, Mr. Garretson, the official spokesman for the brotherhoods, testified before the Senate Committee that the brotherhoods insisted upon retaining the right to strike for satisfactory wages. If, then, wages were advanced, and rates were not, a deficit might be anticipated. Who would bear the deficit? The plan provided that deficits should be borne entirely by the government. As a protection against this outcome Mr. Plumb proposed that Congress have the right, subject to court review, to terminate the lease whenever a deficit arose or whenever the terms of the lease were violated.

Obviously, however, this is a very drastic, and therefore unsatisfactory, remedy. We do not for a moment, of course, mean to attribute to employees "a double dose of original sin"; but it is human nature to want more of the comforts and luxuries of life, and the plan clearly did not sufficiently protect the public interest.

The Plumb plan laid particular stress upon the provisions for democratic control of the industry. It was this feature that constituted the "vitality" of the plan, and it was probably this feature more than any other that led to its rejection by the people. The opposition to the plan on this score was stated by the *Railway Age* as follows: "It would be a singular kind of 'democracy in the control of the railroads' which would make the public pay the entire bill for buying the roads, give it only one-third of the managing directors, give it only one-half of the surplus if there was any, and send it the entire bill for the deficit if there was one!" [1] Whatever may be the merits of the Plumb plan—and it had undoubted merits—the people were not willing to have the government buy the roads and then turn them over to a comparatively small percentage of the population, especially since the plan proposed fell far short of safeguarding the predominant public interest.

The foregoing proposals of a number of representative groups, including government operating officials, government regulating officials, railway executives, bankers, shippers, and railway employees, differed considerably in underlying principles and details. The presentation of these plans, together with the arguments advanced for and against them, materially assisted the members of Congress in seeing the railroad problem from all angles, and in evolving a sound legislative policy with respect to railroads. We shall shortly describe in some detail the provisions of the law enacted by Congress, but while the subject is fresh in the reader's mind it will be well to enumerate briefly the principal features of the aforementioned plans that were incorporated into the act. These include: private ownership and operation; the permissive consolidation of the railroads into a relatively small number of competitive systems; the modification of the laws restraining coöperative activities among railroads, for example, the anti-trust and anti-pooling laws; the grant of greatly increased powers to the Interstate Commerce Commission, including au-

[1] Vol. 67, p. 141.

thority to approve consolidations and pools, to require a certain amount of unification of facilities, to control service, to regulate the issuance of securities, to fix intrastate rates when necessary to prevent discrimination against interstate commerce, and to fix minimum rates; the adoption of a rule of rate making, requiring the Commission to establish rates that will yield adequate net returns; the participation of the government in railroad revenues exceeding a fair return; and the adjustment of labor disputes. These items, it is clear, constitute no revolutionary change in our established policy; they merely represent an attempt to bolster up the existing machinery where it has not functioned satisfactorily. Unlike earlier legislative measures, they gave to the Interstate Commerce Commission nearly complete powers of regulation. Therefore, if regulation is not hereafter a success, the case will become much stronger for the most promising alternative—government ownership and operation. To this topic we now turn.

REFERENCES

Beyer, O. S. Jr.: "Railway Efficiency and Labor," *Annals of the American Academy of Political and Social Science*, vol. 86, pp. 227–243 (November, 1919). See also Dunn, S. O., pp. 243–248.

Dixon, F. H.: *Railroads and Government*, ch. 15 (1922).

Magee, J. D.: "What Shall We Do with the Railroads?" *Journal of Political Economy*, vol. 27, pp. 329–353 (May, 1919).

Meyer, B. H.: "The Legislative Program of the Interstate Commerce Commission," *Proceedings of the Academy of Political Science*, vol. 8, pp. 36–45 (January, 1929).

Plumb, G. E.: "Labor's Solution of the Railroad Problem," *Nation*, 109, pp. 200–201 (August 16, 1919).

"The A. B. C. of the Plumb Plan," *Railway Age*, vol. 67, pp. 139–141 (July 25, 1919).

"Plumb's Soviet Plan of Railroad Management," *Railway Age*, vol. 67, pp. 293–296 (August 15, 1919).

Sharfman, I. L.: *The American Railroad Problem*, pp. 357–381 (1921).

CHAPTER XXIV

GOVERNMENT OWNERSHIP AND OPERATION

The highly controversial subject of government ownership and operation will be presented by discussing, topically, the leading arguments for and against ownership and operation by the government. The topics discussed will be: objective; economy of management; politics; labor; rates; securities; effectiveness of regulation; and foreign experience. The reader will be requested, like Hamlet, to "look here, upon this picture, and on this." From these opposing views he will doubtless reach a conclusion favorable or unfavorable to government ownership (and operation) according to the philosophy of life that he holds. The author, in the interests of an unbiased presentation, holds his own views in the background, trusting that in the decision as to a national policy there may "some God direct your judgment."

Objective

Under government ownership and operation the objective would be the promotion of the public welfare rather than the realization of private profits. The government, representing the people as a whole, would strive to serve the people, whereas the railroad corporations, owned by individual stockholders, naturally try to earn for the stockholders as large profits as possible. The people want low rates, safe and adequate service, and freedom from labor troubles. The railroads, however, want high rates, inexpensive service, and low labor cost. The railroads of course, do not wish to charge higher rates than the traffic will bear, nor to arouse the hostility of shippers and travelers by supplying unsafe and inadequate facilities, nor to embitter the railroad employees by the payment of insufficient wages and the provision of intolerable working conditions. Yet they do wish, as a rule, to earn the maximum net profits.

The government, then, would endeavor to operate the railroads so as to promote the public welfare. To this end it could (and probably would) adopt the policy of restoring to the people

in one form or another the excess profits that under private ownership go to the stockholders.[1] The government of course would not need to earn a profit on the operation of the railroads; it would suffice if it made them self-sustaining, that is, charged rates no more than sufficient to meet the expenses of the business, including, of course, interest on the bonds issued to finance the purchase of the roads. We assume that the purchase price is reasonable and that the properties are operated as efficiently under government ownership as under private. If these assumptions prove unfounded there might be no profits for the government to restore. But granting the validity of the assumptions, the government in carrying out its program of promoting the public welfare might adopt a number of policies. It might reduce freight and passenger rates. A reduction in freight rates would presumably lower the prices of commodities (though probably not in all cases by the full amount of the reduction in rates), and would thus inure to the benefit of consumers generally. A reduction in passenger rates, if made on suburban traffic, would reduce urban congestion; and if made on long-distance traffic, would enable a larger proportion of the population to secure the broadening influence of travel.

The government instead of reducing rates might improve the facilities, making them more adequate and safe. The shippers suffer from time to time because of inadequate facilities of one kind or another, and the resulting losses are borne in the main by the consuming public. These losses could be reduced if more money were expended on the improvement and enlargement of the facilities and equipment. The railroads under private ownership could make the necessary outlays if they could attract the funds, but they have long claimed that they have been unable to do so because of insufficient earnings. The travelers and employees suffer also because of inadequate protection against accidents. The causes of accidents are numerous. They are due partly to the failure of the railroads to provide the requisite equipment, partly to the refusal of the employees to submit to the necessary discipline, and partly to the extreme carelessness of the American people. As illustrating the last point, more than one-third of those killed on our railroads in 1920 were trespassers, and this

[1] The reason for saying excess profits rather than merely profits will be clear after reading pp. 502–504.

does not include all of those who were killed through carelessness. Under government ownership there would presumably be more of a disposition to install the necessary safety devices, and perhaps more of a disposition to insist upon the observance of rules designed to avoid accidents. It is entirely conceivable, however, that the government management would refrain from punishing employees who were guilty of an infraction of the rules, and that it would treat trespassers with the same leniency as at present. In that event our showing as to accidents might not be much better than it is now.

The government might pursue the policy of improving the lot of the railroad employees. It might raise their wages, shorten their hours of labor, liberalize in their interest the rules relating to working conditions, and adopt toward them a more kindly and conciliatory attitude than is characteristic of private managements. Such measures would benefit primarily one section of the population, but if they led to increased efficiency and if they safeguarded the country against railway strikes every element in the population would gain, as well as breathe a sigh of relief.

The government, instead of refraining from making profits, might continue to strive for them like a private transportation company, but use the profits for social purposes. In this way it would be possible for the government to lighten the burden of taxes. The benefits of reduced taxes would probably be retained in part by the taxpayers as such, and would in part filter through to the consumers, the particular outcome depending on what taxes were reduced. The Prussian Government long realized large profits through its operation of the railroads; indeed the profits were so handsome that the government was accused of treating the railroads as the "milch cow" of the treasury. In our opinion this policy is a mistaken one; the railroads should be self-sustaining merely, and not operated for profit. In this connection, however, it is important to note that if the railroads were acquired by the federal government they would no longer pay taxes to the several governments, whether federal, state, or local. If the railroads were thus relieved from the necessity of paying taxes, the several governments would be compelled to find new sources of revenue to make good the deficiency in income. This is an aspect of the matter that is often lost sight of in comparisons of the financial results of government and private operation.

The foregoing are the advantages usually attributed to government operation in the public welfare as opposed to private operation for profit. Occasionally, however, the advocates of government operation take a different tack. Thus, according to Mr. Carl Vrooman, the supreme advantage of government ownership consists not so much in the lowering of rates, improvements in the service, and the amelioration of the conditions of labor, "but in the emancipation of the people, rich and poor alike, from their present economic subjection to the irresponsible power of railway magnates. It is not only incredible, but quite impossible, that a nation which has achieved its political freedom should long consent to this insolent and intolerable form of industrial tyranny." [1] To quote from another advocate of government ownership, "the most important question before any people is the preservation of industrial and political liberty on the one hand, and the maintenance and development of the state on the other. And both of these things are all but impossible under private ownership of the railways." [2]

The opponents of government ownership argue that the railroads, even though operated for profit, may none the less serve the public. The point is well taken, yet such service is for them incidental to the primary object—large dividends for the owners of the business. Though our endeavor throughout this chapter will be to present the case for and against government ownership with equal fairness, we are convinced that as regards objective the advocates of government ownership clearly have the advantage. In order not to emphasize objective unduly, however, one important observation should be made. We have implied in the preceding pages that the excess profits realized under private ownership, and available under government ownership for rate reductions, service improvements, and wage increases would be considerable. Entirely apart from the question of economy and efficiency in management, which is to be considered shortly, these profits are probably less than the reader thinks, unless indeed he be gifted with more than ordinary discrimination. We will make our point by means of an illustration. Suppose that the fair value of a railroad is $200,000,000. Suppose further that the road is

[1] *American Railway Problems* (1910), p. 297.

[2] Howe, F. C., *Annals of the American Academy of Political and Social Science*, 76, p. 157.

privately owned, that the capitalization is equal to the fair value, and that the capitalization is represented by $100,000,000 of bonds and by $100,000,000 of common stock. If the owners of the enterprise are to receive adequate compensation, the railroad must earn enough to meet its expenses, and a fair return on $200,000,000. Suppose now that the government acquires this road and pays for it its fair value.[1] If the government finances the purchase (as it undoubtedly would) by the issuance of bonds, it would have to earn interest on an aggregate of $200,000,000 also, the same as if the railroad were operated for profit. In what manner, then, do the people gain through government ownership, and the consequent elimination of the profit motive? The explanation of the gain is that government bonds are a better form of security than railroad bonds or stocks, because the return on them is more certain, and therefore the interest on the $200,000,000 of government bonds given in payment for the properties would be less than the interest and dividends on $200,000,000 of railroad bonds and stocks. Let us assume that the rate of interest on government bonds under normal conditions would be 4 per cent, the rate of interest on railroad bonds 5 per cent, and the fair dividend on railroad stocks 6 per cent. The substitution of $200,000,000 of government bonds bearing 4 per cent interest for $200,000,000 of railroad securities paying an average of 5½ per cent would thus effect a saving of $3,000,000. If we assume, further, that the purchase price for all the railroads of the country would be $20,000,000,000, the total saving on this basis would amount to $300,000,000. The saving would be larger if the regulating authorities held that 5½ per cent on the fair value was not an adequate rate of return. It would be larger, also, if the average rate of dividend were actually greater than 6 per cent, because of the difficulty of regulating the railroads in such manner as to prevent them (on the whole) from earning more than reasonable dividends. On the other hand, the saving would be less than $300,000,000 if the average rate of dividend were less than 6 per cent, because rates were not high enough to

[1] We assume in our illustration that the fair value for rate making purposes and the fair value for public purchase are the same. Upon this point opinions differ. If the fair value for purchase were less than the fair value for rate making purposes there would be a gain (on this score) through government ownership, and conversely, if the fair value for purchase were greater than the fair value for rate making purposes.

enable the railroads actually to average 6 per cent.[1] It would be less also if the bonds exceeded the stock in amount.[2] Whatever may be facts in these and other regards at the time of government purchase, the saving would undoubtedly be considerable. But it would by no means equal the profits earned by the railroads under private ownership, because the government would have to charge rates high enough to meet the interest on its bonds given to the railroad stockholders in return for the renouncement by them of their claim to the railroad profits. The saving would therefore be less than many might imagine. Suppose the saving were actually $300,000,000. This sum, large though it be, amounts to less than 5 per cent of the railway operating revenues in 1920. This is clearly much less of a saving than the advocates of government ownership are wont to imply.

Economy of Management

In the preceding discussion it was assumed that the railroads would be operated as economically under government ownership as under private. As to the validity of this assumption opinions differ widely. On the one hand, it is maintained that government operation would be more economical, because of the elimination of the wastes of competition and because of the introduction of numerous savings. On the other hand, it is maintained that government operation would be less economical, because of the superiority of private enterprise and initiative and because of the inefficiency of government management, especially in a business of such magnitude.

The advocates of government ownership and operation claim that the unification of the properties in the hands of the government would make it possible to realize numerous economies. These may be grouped under three heads. First, a saving in interest charges. As already explained, the interest on the government bonds given in exchange for the railroad bonds and stocks would be several hundred million dollars less annually than the fair return on the corporate securities. This is a clear gain. The

[1] The average rate of dividend on all stock was only 4 1/3 per cent during 1911 to 1921. *Annual Report of the Interstate Commerce Commission*, 1922, p. 100. To what extent the stock, including much water, was entitled to dividends, it is impossible to say.

[2] This has long been the case. See *Annual Report of the Interstate Commerce Commission*, 1922, p. 99.

saving applies, moreover, to new borrowings. The railroads are never completed, but require an enormous inflow of capital from time to time to enable them to keep pace with the requirements of an expanding population and commerce. The additional funds thus required would cost the government less than they would cost private corporations. The argument has been made that the interest rate which the government would have to pay would rise, if it assumed the risks of railroading; and this is doubtless true. Nevertheless it is unlikely that the government would ever have to pay as much for credit as private concerns, and particularly if the government made the railroads self-sustaining, as it should. Second, savings due to unified management,[1] as, for example, those resulting from the consolidation or rearrangement of terminals; the pooling of locomotives, cars, and repair shops; the short routing of traffic; the withdrawal of duplicate services, notably passenger trains; the abandonment of advertising and solicitation for the purpose of diverting traffic from one road to another; the elimination of interrailway relations, permitting large reductions in the accounting staff; the standardization of equipment; and the coördination of railroad facilities with those of other government departments, especially the post office. Third, savings due to the abandonment of the program of regulation. If it were no longer necessary to regulate the railroads it would be possible to reduce the costs of investigation; to avoid the expenses of regulation, both federal and state; to diminish the outlays incurred on account of litigation (and incidentally to dispense with a host of high-priced railroad lawyers whose principal duty is to outmanœuvre the judges, commissioners, and legislators); to reduce expenditures designed to cultivate a favorable public opinion, commonly known as public relations work; and, if satisfactory relations with labor were established, to eliminate the cost of strikes. The importance of this last item will become clearer after we have described the outcome of the shopmen's strike of 1922—a strike that cost the railroads many millions of dollars, and placed a tremendous burden upon the shipping and traveling public. The injurious effects of this strike, which could hardly be regarded as successful, were felt for many months thereafter.

The opponents of government ownership and operation deny

[1] On this subject, see ch. 22.

that management by the government is more economical. Even if they concede that savings may be effected under government management, they maintain that these savings will be more than counterbalanced by the wastes inherent in government enterprises, and especially those of such magnitude as the national railway system.

There are many reasons, it is alleged, why government operation is more expensive than private. First, it is difficult to find officials possessing that high grade of executive and administrative ability that would be required to manage a national railway system. This system, it may be noted, would be larger than any other business unit that ever existed, at least in time of peace. As Mr. S. O. Dunn, the editor of the *Railway Age*, said in 1918, "in mileage, investment, traffic, earnings, expenses, number of employees and territorial area covered, any other railway system is a pigmy compared with that of the United States. Russia, with 50,000 miles of line in Europe and Asia, has the largest mileage of any country except ours; and the United States has five times the mileage of Russia." [1] The capitalization of the United States Steel Corporation, our largest industrial concern, is (1923) one and one-quarter billion dollars. This exceeds the capitalization of the Pennsylvania Railroad, our largest railroad corporation, by 25 per cent; but it is only 6 per cent of the capitalization of all the railways combined. As Mr. Dunn well says, the problem of developing and working an organization which would centralize authority enough to coördinate all parts of this vast railway system, and which would at the same time decentralize authority sufficiently to enable each part to cope with local conditions and needs, would be the biggest and hardest industrial problem ever presented to the genius and energy of man. There is thus serious question whether there exist men of sufficient capacity to manage the railways as a unit as effectively as they could be managed if they were not unified in a national system.

Second. Granting that men of the requisite capacity exist, the question remains whether they would be chosen to administer the railroads. Conceivably the choice of the principal administrators would be dictated by political considerations. Politicians, not administrators of demonstrated capacity in large undertakings, might be put in charge of the nation's railways. This has been

[1] *Regulation of Railways*, p. 208.

the usual practice in the Post Office department, for example. As a rule, the postmasters have been political appointees, efficient perhaps, yet not chosen primarily because of their efficiency. To cite a striking case, Mr. Will Hays, the chairman of the Republican National Committee, was appointed Postmaster General by President Harding. Mr Hays might be an excellent executive—indeed there is every reason to believe that he was—but it could hardly be claimed that he was the man best fitted by training and experience for the post. Yet whether he was or not, he retained his position for only two years, at the end of which time he accepted a more remunerative position in private employment. This suggests another observation: would the government pay large enough salaries to attract and hold the type of men that would be required if government operation is to be successful? One of the arguments usually advanced by the advocates of government operation is that a saving could be effected by the elimination of the "fancy" salaries now paid to railroad presidents. Though the seven regional directors of the United States Railroad Administration during the war were paid from $40,000 to $50,000 per annum, it is doubtful whether such salaries would be continued in normal times. The popular opposition to salaries three or four times greater than those received by justices of the Supreme Court, cabinet members, and members of the leading government commissions and boards would doubtless prove too great. The greater economy of salaries high enough to attract the ablest men would be urged in vain, in the opinion of the believers in private operation. There is, of course, the honor attached to government service and the social position that goes with important government offices, yet this would hardly prove sufficient in this country to secure the best men. And even if the government was willing to pay satisfactory salaries it is an open question whether capable men would care to serve the government when they might be their own bosses in other industries. Possibly the officials already trained in the railroad service would remain therein, but how about the oncoming generation? Because of these considerations, which apply to the less important executive officials, such as general managers and superintendents, as well as to the highest executive officials, it is maintained that government operation would not be as effective as private.

Third. It is alleged that government management of the

railroads would suffer from the burden of centralized administrative machinery. Obviously a business of such magnitude and dispersion as the railway industry could not receive the personal and close supervision of the executive. It would therefore be necessary to maintain a number of departments and divisions, and to institute an elaborate system of records and reports in order to check up on the work of the several divisions. The opponents of government ownership claim that this "system" would prove cumbersome and burdensome; that it would degenerate into routine and "red tape." An extreme illustration of the "red tape" that is supposed to characterize government dealings is given by Monsieur Pierre Leroy-Beaulieu, who quotes from a letter written by a French stationmaster. "In the time of the Western Company, we stationmasters had orders to use the rolling stock as quickly as possible, and to send to a given station all that we did not ourselves require. Under the State all is changed. Every stationmaster is forbidden to load any wagon without the orders of the distribution bureau of the district. This bureau is, as is well known, a new creation specially designed for the purpose of finding situations for so many more bureaucrats. Recently, having received two wagons loaded with horses, accompanied by an order to send these wagons to Caen after they were unloaded, I thought to do well by loading in these two wagons 200 sacks of grain, which had been waiting in the sheds for several days to go to Caen. But, alas, I did not know the bureau of distribution. The next day I saw my two wagons return, and I received at the same time an order to unload them. I was reproved into the bargain for excess of zeal. I had to obey the order. That evening I sent the wagons empty to Caen. Next day I received two others, also empty, into which to load the grain." [1] To give another example, in the purchase of railway supplies, which amount in the United States to approximately $2,000,000,000 per annum, government buyers, it is alleged, would be hampered by detailed rules and regulations, the net result of which would be to increase the prices that the government had to pay.

Fourth. Government management is inferior, it is asserted, because there is not the incentive to individual initiative that characterizes private management. This lack of initiative is due in part to the unwieldiness of government machinery, and in

[1] *The State in Relation to Railways*, pp. 61–62.

part to the absence of the profit motive. Under private operation the management is more efficient because results are demanded. Railway officers who produce results are promoted; those who fail to produce results are not, and may even be retired. Though the weeding-out process is drastic, it is wholesome none the less. Under government operation, however, it is difficult to adopt this policy. Promotion is more likely to be based on length of service, and dismissal is almost impossible except in cases of dishonesty or rank incompetence. Since initiative is inadequately rewarded, and mediocrity is inadequately penalized, government officials show less initiative and more mediocrity than private officials.

Fifth. It is charged that government operation would be less efficient, especially when viewed over a long period of time, because under it invention would be checked and technical progress retarded. The government, having a monopoly, would be less likely to apply new inventions and to adopt improvements that necessitated the scrapping of expensive plant and equipment. The statement that an industrial monopoly "makes no proper use of that invaluable agent of progress, the junk heap" is held to be equally applicable to government monopolies. It is worth noting that the railway supply companies are opposed to railroad monopoly in any form, on the ground that it retards invention. Their argument is that it is easier to secure the adoption of new devices when there are numerous railway managers to whom appeal can be made, whereas under government management all the railways would be under one control. With reference to the alleged advantages of standardization of the manufacture of equipment, cited as an argument in favor of government ownership, it is said that there is danger of standardization being carried to an extreme. Progress in design is held to be far more important than standardization of design. In industry, as in biology, "variation from type" is essential to evolution. The superiority of private railways over government railways as regards inventions and improvements has been emphatically set forth by Mr. W. M. Acworth, perhaps the leading writer on railways in England. We quote at some length. "In all the history of railway development, it has been the private companies that have led the way; the State systems that have brought up the rear. It would be difficult to point to a single important invention or improvement

the introduction of which the world owes to a State railway.[1] England shares with America the credit of having invented the locomotive. England first rolled steel rails, but America was not long behind. England first introduced the block system of signalling; while to America is mainly due the later development of automatic appliances. There are two types of power brakes on the world's railways. The Westinghouse brake was invented in America, the vacuum brake in England. The automatic coupler is wholly American. So are the sleeping car and the dining car. Shunting by gravity, which accounts for a saving of millions of pounds a year, was invented in England, but has been mainly developed in America. Brunel, on the Great Western of England, first taught the world what express trains meant. And forty years later, the English companies in the historic 'Race to Edinburgh' in 1888 gave a new interpretation of the term. America promptly replied with the 'Empire State Express,' and bettered the instruction with the 'Atlantic City Flyers.' The French companies, too, took up the challenge, and put on trains from Paris to Calais, and to the Belgian, German, and Spanish frontiers, that could hold their own with anything that England and America had to show. And meanwhile the International Expresses of Prussia and Belgium jogged contentedly behind. It is true that in these two countries the track was not fit for high speeds. Nor was it at the outset in France or America. But it was possible to make it so—at least where it was in the hands of a private company. Take the latest problem of all, the electrification of main lines with dense traffic. Electric working is constantly pushing out from New York and Philadelphia, from London and Liverpool and Manchester. And, meanwhile, the Prussian Government has carried out some interesting and exhaustive experiments on a special track at Zossen.

"Railroading is a progressive science. New ideas lead to new inventions; imply new plant, new methods. And this means the spending of much new capital to be recouped by larger economies later on. The State official mistrusts ideas, pours cold water on new inventions, grudges new expenditure. No one questions the ability of the German people. German manufacturers, German merchants, German bankers have taught the

[1] Possibly the Schmitt locomotive superheater might be claimed by the German railways as an important improvement of which the credit is theirs.

business world a good deal in recent years. German railwaymen have written many books, some of them valuable; but in practical operation they have taught the railway world nothing. Why? Is it because they are State officials?" [1]

Sixth. It is also argued that government management would be less effective because of the necessity of placating the politicians and the railroad employees. The latter would no longer fear dismissal, and they could therefore do less work, and still hold their jobs. We shall discuss later the political and labor aspects of government operation, but we have said enough to make it clear why the opponents of nationalization believe that the savings realizable under government operation would be more than offset by the wastes inherent in huge government undertakings. Should this prove to be the case, the government could not reduce rates, nor improve the service, nor raise wages, without suffering a deficit that would fall upon the taxpayers. The opponent of government ownership argues that even though the objective of the government in railroad operation is entirely laudable, the primary concern of the people is in securing satisfactory service at reasonable rates; and that they are more likely to achieve this end under private operation than under government, because of the superior efficiency of the former.

Politics

The friends of government ownership affirm that the railways should be publicly owned in order to prevent them from exerting an unwholesome and corrupting influence upon politics. That the railways have exercised a baneful influence upon politics is conceded even by the spokesmen for the railways. To quote from the editor of the *Railway Age*, "in the past the railroads have been one of the most demoralizing influences in our political life. Their promoters began very early to use questionable means to induce prominent citizens, lawmakers, and public officials to support measures giving railway companies public subsidies and liberal franchises. Passes over lines already in operation were issued to almost everybody of influence. Stock often was distributed gratis where it would 'do good.' Cash bribes were paid when they were the only efficacious means to the desired ends. Hardly any effort, legitimate or illegitimate, was spared to get and keep in public of-

[1] *Historical Sketch of State Railway Ownership* (1920), pp. 61–62.

fice men who were 'friendly'. . . . In most states, the companies, in trying to prevent unfavorable and to get favorable legislation, gradually built up strong political machines which ramified everywhere. These machines were usually directed from the law departments; and it was a poor railway that could not afford to have on its legal staff one or more men who devoted themselves almost entirely to the practice of politics. Where the Republican party was dominant the machines usually were Republican, and often controlled the Republican organizations. Where the Democratic party was dominant they usually were Democratic and often controlled the Democratic organizations. They sought to determine the nominations of candidates for the legislature, for Congress and for other public offices; and they were largely represented in the national conventions of the leading parties. When the legislatures and Congress were in session the railway machines had at the state and national capitals large and active lobbies that spared no pains to prevent, and, if prevention became impossible, to control and shape, legislation affecting railways. The ambitions, hopes and fears of public men were constantly played on by skillful performers; the ubiquitous free pass was peddled constantly; and large contributions were made to campaign funds. Not uncommonly, as a last resource, bribery was used. By means such as these the railways managed for a long time in many states, and even at the national capital, to so corrupt and control politics as to prevent much legislation that would have been unjust and harmful to them, and also much that the interests of the public demanded." [1]

Conceding the pernicious political activities of the railroads in the earlier days, the defenders of private ownership claim that these are past episodes; that the railroads are now out of politics. The opposing view, however, is that the railroads are now in politics, and will stay in politics, in one form or another, so long as it is to the advantage of powerful financial groups to have in office men that they can control and bribe. The interests at stake are of course enormous. There is involved the matter of taxes, restrictive legislation and regulation, and labor relationships, to mention but a few of the affairs in which the railroads are vitally concerned.

[1] Dunn, S. O., *Government Ownership of Railways*, pp. 351–353. See also Larabee, William, *The Railroad Question*, ch. 8, and Parsons, Frank, *The Railways, the Trusts, and the People*, ch. 5.

The believer in public ownership maintains that we can not have clean politics, and an honest and efficient government, if it is worth the railroads' while to corrupt the legislatures, courts, and administrative officials in order to secure favorable, or ward off unfavorable, laws, decisions, and rulings.[1] If we had government ownership of railways, graft and inefficiency would be so expensive, and would so swell the volume of taxes, that the business men of the country would demand honest and efficient governmental administration, not only of the railways perhaps, but also of other government enterprises. Moreover, the enlargement of the field of public service would bring into the government a new and better type of office holders, and would thus raise the whole plane of official life. In England, for example, public office carries with it high social position and marked distinction. So it might be in this country, we are told, if we could free the business talent of the country for government service by abolishing the private interests which it has been accustomed to serve.

The opponents of government ownership contend that while nationalization would take the railroad corporations out of politics, it would not take the railroads themselves out of politics. There would still be political parties and political machines; and still the necessity of rewarding faithful workers. In the payment of its political debts the party in power would find places in the railway administration for "deserving" Democrats or Republicans. It is well known that the postmasters are frequently chosen for their service to the party rather than for their administrative ability and experience. Government management of railways would thus be, it is charged, merely the substitution of political competition for economic competition, with disastrous financial consequences. It is generally conceded that political influences played no part in the operation of the railroads during 1918 and 1919 by the United States Railroad Administration,[2] but it is

[1] On the corrupting influence of public utilities in private hands, see Steffens, Lincoln, *The Shame of the Cities.*

[2] Director General McAdoo, testifying in 1922, said: "There was not a single appointment of an officer or an employee on the railroads while I was director general that was influenced in the slightest degree by any political consideration whatever; no one ever asked me to make an appointment for political reasons, and if they had, the request would have been promptly disregarded." Senate Document no. 165, 67th Cong., 2nd Sess., 1922, p. 1769. On the order of Mr. McAdoo, directing railroad men to keep out of politics, see *Railway Age*, 65, p. 429 (September 6, 1918). As regards this

maintained that this was because of the war emergency, and that this brief experience affords no indication of what would happen in normal times.

Politics, it is said, would dictate not only the appointment of officials, but also the construction and operation of the railroads. Under government ownership the appropriations for extensions and improvements would presumably be made by Congress. On what principle would these appropriations be made? On the same principle, it is urged, that appropriations for government projects are now made. Our government expends many millions of dollars annually on the improvement of rivers and harbors, the construction of post offices and other public buildings, and similar works. Often the deciding factor in the apportionment of these expenditures is not the public need for the improvements or the buildings, but the enterprise of senators and congressmen, who are continually alert to "get something" for their state or district. Usually the most effective way to "get something" is to lend support to other senators and congressmen impelled by similar motives, and by the process known as "log-rolling" obtain something for every one. Thus, the River and Harbor bill of 1910 made appropriations for 296 congressional districts out of a total of 391.[1] This bill has been characterized as "a masterpiece of geographical distribution," since it took care of every district that could well lay any claim at all to development at national expense. Likewise, under government ownership of the railways, we are told, the making of extensions and improvements would be dictated by political considerations rather than economic. Expenditures for new lines and new buildings would not be distributed wisely, but more or less equally, on the "pork barrel" plan. Moreover, there would be a greater inclination on the part of Congress to spend money for handsome buildings that made a good showing than on heavier rails and better roadbed, notwithstanding the fact that the latter might be more urgently needed. The wastes that would result

matter, Judge Lovett, the head of the Union Pacific, said: "In my judgment no business agency, public or private, has been more absolutely free from political influences and considerations or more completely dominated solely by what was conceived to be right and in the public good, than the railroad administration, due to the inspiring example and superb firmness of character of the Director General himself." *Railway Age*, 65, pp. 1015–1016 (December 6, 1918).

[1] See Burton, Theodore E., The Scandal of the Federal Appropriation Bills," *World's Work*, 25, p. 439.

from the construction and operation of the railways along these lines would far transcend the wastes now incurred through similar extravagances in water ways and public buildings; and would exceed, moreover, the saving in interest charges. Thus there might be no profits to divide with shippers, travelers, and wage earners in the form of reduced rates, improved service, and higher wages.

Politics, it is also asserted, would exercise a controlling influence in matters affecting labor and rates. These considerations are very important, but they will be discussed later in the chapter.

Labor

The proponents of government ownership declare that the nationalization of the railroads would bring about improved relations with labor. The government would increase wages, shorten hours, and treat the employees with more consideration. For many years, and especially since the return of the railroads to their owners in March, 1920, there have been constant bickerings between the railroads and their employees, with losses in efficiency that would amount to millions of dollars if we could translate them into dollars and cents. If these losses could be saved through the establishment of harmonious relations between the management and the men, the gain would be very large. That it is the practice of governments to improve the condition of labor is held to be borne out by experience. For example, the nationalization of the railroads of Switzerland in 1898 [1] and of Italy in 1905 led to increased wages and shorter hours.[2] It is hardly necessary to argue the point that government ownership would lead to higher wages and shorter hours, because this is one of the few matters upon which there is rather general agreement. Practically the only difference of opinion in this regard is as to whether the employees would receive more favorable treatment than they were entitled to, bearing in mind their efficiency, the conditions as to wages and hours in other industries, and the earnings of the railroads.

The advocates of government ownership go further, and claim

[1] The law providing for the purchase of the Swiss railways was passed in 1897, and accepted by the people in a referendum (the vote was more than two to one in favor) in 1898. The railroads were taken over by the government for operation during 1901 to 1909. See Holcombe, A. N., *Quarterly Journal of Economics*, 26, pp. 342–343.

[2] Tajani, Filippo, *Quarterly Journal of Economics*, 23, p. 648; Vrooman, Carl, *American Railway Problems*, pp. 130-133.

that public ownership would reduce or eliminate the danger of strikes, and would thus insure to the public that uninterrupted transportation upon which its welfare depends. This, if true, would be a powerful argument in favor of nationalization. Only by a very narrow margin was a national tie-up in this country avoided in 1916, in 1917, and again in 1921; and a nation-wide strike of the shopmen was actually initiated in July, 1922. This strike, after causing serious damage, was settled on approximately half of the railroads within three months; but is still officially in effect as to a number of the rest as this book goes to press (in December, 1923).

The opponents of government ownership usually concede that the condition of railway labor would be improved under nationalization, but they affirm that their condition would be improved to such an extent as to create a favored class. Under government ownership wages, hours, and working conditions would presumably be determined either by Congress, as at present for the post office employees, or by the railroad administration, as during 1918 and 1919. If determined by Congress the whole question would inevitably become a political issue. The employees would organize for every campaign, whether presidential or congressional, and would vote solidly for the candidates that were favorable to their demands. Candidates for office would thus find it to their interest to bargain for the votes of the railway men, and the latter would therefore be enabled to improve their position steadily. In reply to the argument that experience fails to show the possession of any such power upon the part of post office and other government employees it is held that the conditions would be quite different if the railway men were added to the list of government employees. Thus, in the presidential election of 1920, when the railways were being privately operated, the number of votes cast for President was 26,786,758. As the number of government employees (not counting the armed forces) was only 640,175,[1] this group commanded less than three per cent of the votes, assuming that all the government employees voted. The percentage was too small to enable them to exercise a controlling influence. Suppose, however, the number of government employees was swelled by the inclusion of the railway employees. This would make a total of 2,663,007 persons in government serv-

[1] On December 31, 1920.

ice, or nearly ten per cent of the votes cast in 1920. To be sure, not all of the railway employees could or would vote, but a large proportion of them could and would. The percentage is quite large enough, it is alleged, to determine the result, were the election at all close. This would not have been true in 1920, because President Harding's majority was 7,000,000, or approximately two and two-thirds times as great as the combined voting power of government employees and railway employees. However, this was far from typical; for President Harding's majority was the largest in the history of the country. In an ordinary election the railway employees, if they voted solidly with other government employees, might well determine the outcome. That these fears are not fanciful is indicated, we are reminded, by the manner in which the brotherhoods obtained the eight-hour day in 1916, notwithstanding the determined resistance of the railway executives. Says one author, "The method of the enactment of the Adamson law in 1916 provides a striking reflection of the tremendous power of organized railroad labor, and of its readiness to use that power ruthlessly to dictate governmental policy. The strength of political leverage would become immeasurably intensified under a nationalized railroad system, with the Government the sole owner of the railroad properties and the sole employer of railroad labor." [1] And another, "the passage of the Adamson Eight Hour Law in 1916 showed us what labor could do politically when it got the country by the throat." [2] It is indicated, also, by the results of the congressional election of 1922. On this occasion most of the senators who had voted for the passage of the Esch-Cummins Act, and who came up for reëlection, were defeated; and the organ of the railroad brotherhoods unblushingly claimed the credit for the defeat.[3]

If wages and working conditions were determined, not by Congress directly, but by the management (or by a board subordinate to or independent of the management), the case would not be so bad, it is admitted. None the less the tendency would still be to create a favored class. The management would not be disposed to resist the demands of the employees, even though they were

[1] Sharfman, I. L., *The American Railroad Problem*, p. 209. Mr. Sharfman was not expressing his own opinion, but merely stating the argument.

[2] Dixon, F. H., *Railroads and Government*, p. 344.

[3] See *Labor*, November 11, 1922 and following.

unreasonable, but would find it easier to accede to their requests. Under private operation, conducted for profit, the managers actively oppose the demands of the employees for increased pay, etc., but under government operation there is no such group in active opposition. The tenure of office of public officials is not necessarily dependent on whether they realize a profit or not, especially if they secure the support of the government employees by the grant of the desired concessions. Should there be losses under private operation the position of the managers might be endangered, but this would not be true to the same extent, it is said, under public operation. And even if the management stood firm against the demands of the railroad employees, there would still be the possibility of appeal to Congress, to whose control the railway management would remain subject. Therefore, it is declared, whatever the machinery adopted for fixing wages, the employees would exert an unwholesome influence upon politics as a means of gaining what they want. On this point of labor and politics we quote again from Mr. Dunn, an active and able opponent of government ownership. "A long and largely successful fight has been waged in the United States against the use by railway corporations of corrupt methods to influence or control politics. By the adoption of government ownership we should throw away all the conquests made in this field, and precipitate a new struggle against new forms of political corruption—a struggle which probably would be much longer, and the ultimate issue of which would be more doubtful." [1]

To the foregoing arguments the advocate of government ownership replies that government employees are closely restricted in the exercise of political activities by the civil service rules. These rules provide that "no person in the executive civil service shall use his official authority or influence for the purpose of interfering with an election or affecting the results thereof. Persons who by the provisions of these rules are in the competitive classified service, while retaining the right to vote as they please and to express privately their opinions on all political subjects, shall take no active part in political management or in political campaigns." [2] The forms of activity forbidden by this provision

[1] *Government Ownership of Railways*, p. 371.

[2] Civil-Service Act, Rules, Statutes and Executive Orders, amended to May, 1922, p. 37.

include: acting as a delegate in any political convention; serving on any political committee or club; engaging in political discussions or conferences while on duty or in public places; soliciting political support for any party, candidate, or measure; publishing or being connected editorially, managerially, or financially with any political newspaper, and writing for publication or publishing any letter or article, signed or unsigned, in favor of or against any political party, candidate, faction, or measure; distributing campaign literature, badges, or buttons; circulating political petitions; and becoming prominently identified with any political movement, party, or faction, or with the success or failure of any candidate for election to public office. Because of these far-reaching restrictions on the political activities of civil service employees, it is maintained that the fear of an unholy alliance between labor and politics is a bugaboo.[1] The opponent of government ownership answers that the government employees, if reënforced by the railroad employees, would probably be powerful enough to abolish these rules. However, if they were not, there would be nothing to prevent the employees from giving their votes to those candidates for office who made the desired pledges, and that in this way a Congress subservient to the employees would in fact be created.

So far as strikes are concerned, the opponent of government ownership denies that strikes would disappear, unless indeed the government acceded to all the demands of the men. They point out that strikes took place on the state railways of Hungary and France, among others. In both instances these strikes were lost because the government called the men, or a portion of them, to the colors, and assigned them the duty of running the railroads. To have continued the strike under these conditions would have been to incur punishment under military law, involving death, perhaps. The United States, however, is not only a democratic nation, as is France, but also a nonmilitary one; and it is not to be supposed for a moment that a strike in this country would be dealt with in this summary fashion. Again, there were no strikes on the Prussian state railways during the period preceding the World War,

[1] As regards Switzerland, Professor A. N. Holcombe says: "The influence which the latter (the employees) exert in order to bring about an improvement of their conditions of employment has no unhealthy effect upon Swiss politics." *Quarterly Journal of Economics*, 26, p. 349 (1912).

but this likewise has little bearing on the American situation. The railroad employees of Prussia were not even allowed to form unions, so thoroughly were they under the domination of the ruling class. Moreover, nearly all of the workers of Prussia had received an army training, and as a result they had learned to submit to discipline in a way for which there is no parallel in this country. A railway strike in Prussia would, without a doubt, have been immediately met by calling the men into the army, and assigning them to railroad duty. Since no such policy would be adopted in this country, the workers would strike, if necessary; indeed, some of them actually did strike in 1919 during the administration of the railroads by the United States.

The advocate of government ownership replies that granting the possibility of a strike under government ownership the danger is much less, and the effectiveness is also less, whether in a democracy or a monarchy. There was a strike on the state railways of Victoria in 1903, but it lasted only a few days because of the opposition of the public and because of the proposed enactment of an anti-strike law.[1] Moreover, the strike was followed by the passage of legislation to prevent the railway men from exercising in the future any influence in a political way. In Italy, which took over its railways in 1905, a law of 1905 and again of 1907 made all railway employees "public officials," and it was a criminal offense for public officials to strike. In the United States during government operation an unauthorized strike took place in 1919, but the conditions were very unusual. However, though the men had a real grievance, they soon went back to work because of the refusal of the government to treat with them so long as they were on strike. Moreover, in all the history of the United States postal administration the employees have never gone on strike. In Switzerland, also, which is a democracy like the United States, the workers, down to 1912 at least, had never struck nor even threatened to strike, notwithstanding the fact that the government had never treated them with undue liberality.[2] There is therefore abundant reason to believe, it is asserted, that the government could deal with the strike menace more effectively than private railway companies could.

[1] Pratt, E. A., *Railways and Nationalization*, pp. 165 ff.
[2] Holcombe, A. N., *Quarterly Journal of Economics*, 26, p. 346.

Rates

The advocates of government ownership urge that the adoption of this policy would lead to the elimination of discriminations in rates between persons, to the reduction or elimination of discriminations in rates between localities, and to a greater stability of rates. They also say that it would make possible a reduction in the general level of rates. Whether this would be possible largely depends, assuming that the railroads are not to be run at a loss, on the relative economy of government and private management, a matter that we have already considered. We shall therefore confine our discussion of rates to the matter of discrimination and stability.

With regard to personal discrimination, this has been one of the greatest evils practiced by the American railroads. It has built up favored shippers, sometimes even to the point of monopoly; and has destroyed others, notwithstanding the fact that the latter may have been more efficient in *production*. Personal discrimination is opposed to every concept of fair play and sportsmanship, yet it long thrived because of the competition of the railroads for traffic. Laws were enacted to prevent it, but certainly at first without marked success. The advocate of government ownership says that nationalization would stop personal discrimination completely; that the price of transportation for a given service would be the same for all, whether rich or poor, great or humble, just as it is with postage stamps. As Mr. Frank Parsons said, after an investigation on the ground, "the State railways of Germany, Austria, Switzerland, Belgium, Denmark, and the Anglo-Saxon republics of South Africa and Australasia are absolutely free from unjust discrimination. There are no complaints or suspicions on that score. Shippers know to a certainty that their rivals are paying the same charges that they are. Even the most strenuous opponents of public railways do not accuse them of favoritism." [1]

The advocate of private ownership, if fair-minded, will concede that government ownership has an advantage in this respect. He alleges, however, that personal discrimination can be practically eliminated without nationalization. Personal discrimination results from the bitterness of railway competition, and if this competition can be held within bounds through pools and combinations

[1] *The Heart of the Railroad Problem*, p. 315 (1906).

there will be less incentive to discriminate. In France private operation prevails, yet there is no personal discrimination.[1] This is because the French railways, both private and state, are regional monopolies. Personal discrimination, it is said, can be prevented by drastic legislation and regulation. Thus, in England, where there is private operation, and where there was active competition until 1921 (in which year regional consolidations were provided for), rebates are absent.[2] Professor Parsons, who favors public ownership, admits that the privately operated railways in Denmark, Holland, Norway, and Sweden are free from discrimination—that "thorough public control, natural honesty, and lack of overwhelming temptation have combined to produce a pure administration."[3] Likewise in the United States, it is maintained, rebates do not exist to an appreciable extent to-day, and there is no desire on the part of railroad officials to revive them.

With regard to local discrimination, this also has been a cause of great dissatisfaction under private operation. The railroads have discriminated in favor of certain towns and against others, because there was competition at the first set of towns and not at the second. They have discriminated in favor of certain towns because the officials of the roads (or the bankers dominating their policies) have had pecuniary interests there which could be promoted by the grant of reduced rates. As competition of railways is usually more active at the larger cities, there has been a tendency under private ownership for the cities that were large to become larger, thus producing urban congestion. Under government ownership, it is urged, the rates to the smaller towns and rural districts would be reduced in order that these places might obtain their fair share of the advantages of cheap transportation. Discriminations between localities, if made at all, would be made on large public grounds, and therefore would be limited to such as it would be possible to justify in the eyes of the people.

The defenders of private ownership claim that many local discriminations are not preventable even under government ownership. They might well concede that those cases of local discrimina-

[1] Acworth, W. M., *Historical Sketch of State Railway Ownership*, p. 76 (1920).
[2] Ibid.
[3] *The Heart of the Railroad Problem*, p. 315 (1906). Professor Parsons denies that personal discrimination is entirely absent in France and England. See p. 309.

tion that are the result solely of competition between railways or of the abuse of power in the interests of railway officers could be eliminated. Yet they assert that there would be substituted for these cases of local discrimination a new set based on political motives as distinct from financial. Consider, for example, the manner in which tariff duties are fixed. The tariff laws of this country, as all will agree, represent a compromise between contending interests, both personal and sectional. Certain persons and groups want high duties on certain articles and low duties on others. These persons and groups come into conflict with others who have contrary interests. Out of this confusing welter of special interests there emerges periodically a new act, which is never the result of the consistent application of any principle, good or bad. The satisfactory adjustment of tariff duties, even if made by a nonpartisan Tariff Commission, would prove a very difficult task, but the proper adjustment of freight rates is a much more complex problem, and an infinitely more important one. As matters now stand, these adjustments are made by a nonpolitical body—the Interstate Commerce Commission—which is gradually eliminating local discrimination to the extent that seems feasible. If, however, we were to nationalize the railways these difficult questions would be thrown into the maelstrom of politics. Dissatisfied persons and localities would bring pressure to bear on their representatives in Congress for relief or favors, as the case might be. Congress might be called upon to determine whether steel should be made in Pittsburgh or Chicago, shoes in Boston or St. Louis, and oranges in California or Florida. Says Professor Sharfman, "the evils of the traditional tariff lobby might sink into insignificance by comparison with the abuses that would flow from concerted pressure upon public authorities endowed with unlimited power over railway rates and regulations."[1]

With regard to stability of rates, the advocate of government ownership points to the violent fluctuations in rates that have characterized railway operation in the past under private ownership. Fluctuating rates promote speculation, lead to business failure, and disturb commerce generally. With stable rates manufacturers and merchants can enter into long term contracts with more assurance, and because the risk is less can sell to the public at lower prices. The claim is that rates would be more stable under

[1] *American Railroad Problem*, p. 208.

government ownership; and this is usually conceded by the opposition.

The opponents of government ownership deny that it is necessary to nationalize the railroads in order to secure reasonable stability of rates; they say that it is entirely possible through regulation to attain stability to the extent that is desirable. But from their standpoint, stability of rates is a doubtful advantage. It is more important, they say, that rates be flexible and elastic; that they be adapted to the changing conditions of industry. The railway traffic manager is expert, it is said, in knowing where the shoe pinches. The principle he follows is to "charge what the traffic will bear." This means lower rates on some articles than on others, and lower rates per mile on long hauls than on short ones. The effect of low rates on long hauls is to widen the areas of production, to stimulate competition between producers, and thus to secure efficiency, low cost, and low prices. The local producers complain, to be sure, if the market is opened to distant producers as well as to those near by, but the gain to the consumers is undoubted. Under government ownership, however, it is alleged that rates would become rigid and inflexible. As Professor LeRossignol says in regard to New Zealand, the Railways Department has, for the most part, "taken refuge in an almost inflexible system of rates, and, instead of modifying the rates in accordance with the conditions and changes of business, has compelled business to accommodate itself to the established rates, regardless of special circumstances and special needs." [1] Under government ownership there would be a tendency to avoid the controversies between communities over rates by the adoption of a distance tariff, which would compel the several consuming markets to secure their products largely from adjacent centers of production. As Mr. H. R. Meyer, a bitter (and unreasonable) opponent of railway nationalization puts it, "the conflicts of sectional, trade and class interests, precipitated by the modern competition for the market, are so fierce that no government, and no body of public officials, can step in to regulate them, unless that government, or those officials, can get behind the stone wall of a hard and fast system and reply to all complainants: 'Gentlemen, you are complaining of rates that are the machine product of a system established by law, a system that knows no discretion.'" [2]

[1] *Quarterly Journal of Economics*, 23, p. 670 (1909).
[2] *Government Regulation of Railway Rates*, p. 122.

The result, it is said, would be the arresting of commercial progress, nay industrial lethargy and stagnation.

Securities

Government ownership is advantageous in that it would substitute government bonds, the best of investments, for railway securities, some of which are very good, some of which are indifferently good, and some of which are almost worthless. This would be an undoubted gain. Under government ownership we would no longer experience the distressing spectacle of bona fide investors losing all or a large part of their investment in railway securities because of the operations of railroad wreckers. No longer would railroad properties be "looted," as were the Chicago and Alton, the Chicago, Rock Island and Pacific, the Cincinnati, Hamilton and Dayton, the New York, New Haven and Hartford, the Pere Marquette, and the St. Louis and San Francisco, to mention some of the outstanding cases of the last twenty-five years. Under government ownership there would be no more railroad receiverships, whether these were due to the operations of railroad wreckers or to legitimate causes; and thereby the unsettling effect of railroad failures on security values would be avoided. Government ownership, moreover, would eliminate speculation in railway securities, and thus release a considerable fund of human energy for more useful activities. Watered stock so far as railroads are concerned would disappear, and thereby a fruitful source of controversies would be abolished.

The defender of private ownership would hardly care to condone the scandalous episodes in railroad history, leading to the wrecking of prosperous railroads. He argues, however, that these evils can be prevented through regulation. Prior to 1920 it was difficult to prevent them, because the authority of the Interstate Commerce Commission did not extend to the regulation of securities. But the Esch-Cummins Act of 1920 gives the Commission this power, and there is no reason, we are told, to anticipate the recurrence of these episodes. Moreover, stock watering can be prevented, if desirable; but the matter is not very important, it is said, because the railroads are entitled, not to a fair dividend on their stock, but to a fair return on the fair value of their property. Therefore the volume of stock outstanding is not material.

Effectiveness of Regulation

Those who believe in government ownership allege that it will be necessary for the people to run the railways because of the ineffectiveness of regulation. They assert that regulation is already a demonstrated failure, or, if not as yet, that it will become so sooner or later. Regulation will become a failure, they believe, because of the tremendous interests at stake. The Interstate Commerce Commission has powers over the railroads so great that the latter will use every resource at their command to prevent regulation from being effective. There are many ways of achieving the desired result. By securing the election of a conservative President there is reasonable assurance of the appointment of conservative commissioners. If progressives or radicals are appointed to the Commission, they can be "picked off" by the railroad interests by the offer of a responsible position at a high salary. Those who can not be picked off can perhaps be "kicked upstairs," by the offer of a place in the President's cabinet.[1] Those who are not reappointed can be taken care of by the railroads, thus encouraging the commissioners to look forward to a position with some railroad after their connection with the government is severed. Honest, but mediocre, commissioners can be befuddled by the brilliance and intellectual adroitness of the high-priced railroad lawyers and valuation experts. And, finally, dependence can be placed in the courts to protect fully the property rights of the railroads. If all these fears seem fanciful, we are asked to study the experience of New York state. In 1907 Governor Hughes succeeded in forcing through the legislature, despite the bitter opposition of the public utility interests, a law creating two commissions to regulate the public utilities of the state. Governor Hughes, being an ardent believer in regulation, took pains to choose able commissioners of unquestioned integrity. Yet inside of six years the Democratic organization, known as Tammany, had control of the Commission for New York City, and was able to use it as a part of its political machine.[2] Such will be the national experience, it is argued, unless the people are eternally alert. Mr. Robert Crosser illustrates

[1] Mr. Franklin K. Lane, one of the ablest members the Interstate Commerce Commission ever had, was made Secretary of Interior in President Wilson's cabinet. He may or may not have been "kicked upstairs."

[2] On the experience of New York, see Wilcox, D. F., *National Municipal Review*, 4, pp. 547–563.

by referring to the man who stays up for two or three nights in succession in order to protect his home against a burglar whom he knows to be at large in the community, but who soon grows tired of watching, and endeavors to have the burglar locked up instead. So it is, he says, with public utility monopolies. The people may watch them for awhile, and regulate them through commissions, but ultimately they will find it much better to give up the task of watching and to shut the door against those who may be tempted to take an unfair advantage of the public.

The opponents of government ownership deny emphatically that regulation has been a failure. The dangers referred to are said to be merely conjectural, and not borne out by the facts. The Interstate Commerce Commission has been in existence since 1887, and during all this period it has faithfully served the public welfare rather than any special interest. As a rule the members of the Commission have been able; and they have almost invariably been reappointed, even though belonging to a different party than that in power. Even if regulation has not been effective in the past, it is said, this would not prove that regulation can not be made so. Down to 1920 the Commission lacked adequate power; and a fair test of the efficacy of regulation is now being provided for the first time. That the railroads could get control of the Commission is held to be quite unlikely. "The commissions live, work and have their being in the light of publicity. The railway companies could hardly get control of them without the public knowing it; and the public would hardly know it long without changing the personnel of the commissions."

Sometimes the opponents of government ownership admit that regulation has been a failure. They maintain that the Interstate Commerce Commission has borne down too heavily upon the railroads, and therefore has retarded railway development. Yet the remedy they offer is not government ownership, but a less drastic policy of regulation. Their criticisms, however, are met in large part by the Esch-Cummins Act of 1920, which not only endows the Commission with adequate power to prevent railroad abuses, but directs it to establish rates that will insure adequate transportation facilities. By this law the Commission exercises not only negative powers, but truly constructive ones.

Foreign Experience

The advocate of government ownership maintains that the case for nationalization is strengthened by the experience of foreign countries. He points out that public ownership prevails in most of the leading countries of the world, and that the success of this movement constitutes an argument for the adoption of the same policy in this country.

The present extent of government (or state) ownership throughout the world can not be shown with completeness or accuracy; the data are not available. Prior to the World War the Prussian Railway Administration collected these data, and published them in the Archiv für Eisenbahnwesen; but their publication was discontinued during the War, and has not since been resumed. The latest complete data, therefore, are for the year 1913.[1]

In 1913 there were 685,636 miles of railroad in the world, of which 461,363 were privately owned and 224,273 publicly owned.[2] The privately owned mileage therefore constituted 67.3 per cent of the total.[3] In these figures, however, is included the mileage of

[1] *Archiv für Eisenbahnwesen*, 38, pp. 509–523 (1915). See also Parker, F. E., *Monthly Review of the U. S. Bureau of Labor Statistics*, 6, pp. 1071–1072, where the German figures, given in terms of kilometers, are converted into miles.

[2] Some of the publicly owned mileage was operated by private companies, and some of the privately owned mileage was operated by the government, but the mileage that was operated by a different agency than that owning it aggregated only seven per cent of the total. See Wilcox, D. F., *Annals of the American Academy of Political and Social Science*, 76, p. 70.

[3] Mileage of State and Private Railways in 1913, by Continents

Continent	Number of miles of railroad			Per cent of mileage	
	State owned	*Privately owned*	*Total*	*State owned*	*Privately owned*
Europe	115,369	99,644	215,013	53.7	46.3
America	28,045	325,994	354,039	7.9	92.1
Asia	44,010	23,150	67,160	65.5	34.5
Africa	16,458	11,058	27,516	59.8	40.2
Australia	20,391	1,517	21,908	93.1	6.9
Total	224,273	461,363	685,636	32.7	67.3
Total, omitting the U. S.	224,273	206,183	430,456	52.1	47.9

This table is taken from Parker, F. E., *Monthly Review of the U. S. Bureau of Labor Statistics*, 6, pp. 1071–1072.

the United States, which may appropriately be omitted from the calculation in an analysis of foreign experience. The calculation made on this basis shows that in 1913 the state railways constituted 52.1 per cent of the world's mileage (other than the United States), as compared with 47.9 per cent for the privately owned railways. In 1913 there were forty-five countries or colonies (not counting the United States) having as many as 1000 miles of railroad, whether publicly or privately owned. Of this number twenty-six had more miles of state railways than private, as compared with only nineteen having a preponderance of private railways. The countries in which public ownership prevailed included Australia, Austria-Hungary, Belgium,[1] Bulgaria, Chile, Denmark, Egypt, Germany, Holland,[2] India,[3] Italy, Japan, Mexico, New Zealand, Norway, Peru, Roumania, Russia, and Switzerland. Other leading countries had a considerable mileage of state railways, including Argentina, Brazil, France, Portugal, and Sweden.

Not only did the mileage of state owned railways exceed the mileage of privately owned railways (other than the United States), but the trend was toward state ownership rather than in the other direction. In 1898 the people of Switzerland in a referendum approved, by a vote of more than two to one, the purchase of the railways by the government, and during 1901 to 1909 the government took over all the main lines. In 1905 Italy, which had experimented with almost every conceivable policy, and which then had government ownership with private operation, returned to government operation (and ownership). In 1906 (and later) Mexico acquired a majority stock interest in her privately owned railways. In 1906, also, Japan passed an act providing for the acquisition of the principal privately owned railways, and within less than two years the transfer was effected. In 1909 France purchased the Western line, one of the six great railroad systems of the country.

Since 1913 the trend toward state ownership has continued. For example, in Greece, which in 1913 had 999 miles, all privately owned, the government (in 1920) owned more than half of the railways (then having a length of 1470 miles). In Canada, our next-

[1] Belgium is included in this list despite the fact that 50.6 per cent of her railways was privately owned, because the private mileage consisted almost entirely of light railways. Of the mileage other than light railways, over 93 per cent was state owned.

[2] All of the state owned mileage was operated by private companies.

[3] Most of the state owned mileage was operated by private companies.

door neighbor, only 1771 miles (six per cent of the total) were state owned in 1913; whereas by 1920 the figure was over 22,000 miles. The Canadian Pacific Railway, with over 13,000 miles, was the only important privately owned and operated railroad in the country. Even the United States, which in 1913 owned only one small railroad forty-seven miles long (the Panama Railroad, which it had purchased in connection with the Panama Canal), has constructed and now operates a railroad in Alaska. An act of March 12, 1914, authorized the President to build 1000 miles of railroad in Alaska, and this line (called the Alaska Railroad) was completed, about 500 miles in length, in 1923.

The predominance at the present time of state ownership (elsewhere than in the United States) is shown by the table on page 531, compiled from the records of the Bureau of Railway Economics.

In 1920 twenty-eight of the countries for which data were available had a preponderance of state mileage, whereas only eight (not counting the United States) had a preponderance of private mileage. The state mileage constituted 60.8 per cent of the total, as compared with only 39.2 per cent for the private mileage.

It thus appears that state ownership of railways has been adopted by numerous nations throughout the world, of widely varying characteristics. It was adopted by autocratic Russia, and retained by communistic Russia. It was adopted by bureaucratic Prussia (and other German states), and retained by the republican government of Germany (though the railways are now owned by the federal government rather than by the separate states). It was early adopted by the democracies of Australia and New Zealand, and has now been adopted by Canada, our well-beloved (and democratic) neighbor in the north. It has been adopted by militaristic nations and by nonmilitaristic, by backward nations and by progressive. Once adopted, moreover, it has almost invariably been retained. "Speaking broadly, it is safe to say that nowadays a decision of a nation to acquire its railways is irrevocable." [1] Except for cases of nationalization during times of war, which is a special case, there have been but few exceptions to this general statement.

The reason public ownership, once it has been effected, has been retained, say its advocates, is that it has proven successful.

[1] Acworth, W. M., *Historical Sketch of State Railway Ownership*, p. 27.

MILEAGE OF STATE AND PRIVATE RAILWAYS IN 1920, BY COUNTRIES

COUNTRY	NUMBER OF MILES OF RAILROAD			PER CENT OF MILEAGE	
	State	*Private*	*Total*	*State*	*Private*
Argentina	4,136	19,020	23,156	17.9	82.1
Australia	23,147	2,809	25,956	89.2	10.8
Austria	2,661	1,270	3,931	67.7	32.3
Belgium	2,759	1,890	4,649	59.3	40.7
Brazil	6,872	10,732	17,604	39.0	61.0
Bulgaria	1,581	.....	1,581	100.0	....
Canada	22,673	16,711	39,384	57.6	42.4
Chile	3,125	2,270	5,395	57.9	42.1
China	4,001	2,835	6,836	58.5	41.5
Czecho-Slovakia	5,105	3,392	8,497	60.1	39.9
Denmark	1,287	1,407	2,694	47.8	52.2
Egypt and Sudan	2,705	1,676	4,381	61.7	38.3
Finland	2,499	186	2,685	93.1	6.9
France	5,641	27,641	33,282	16.9	83.1
Germany	34,689	1,230	35,919	96.6	3.4
Greece	775	695	1,470	52.7	47.3
Holland	1,238	1,151	2,389	51.8	48.2
Hungary	1,868	2,514	4,382	42.6	57.4
India	31,283	5,746	37,029	84.5	15.5
Italy	8,761	980	9,741	89.9	10.1
Japan	6,202	3,016	9,218	67.3	32.7
Latvia	1,829	.....	1,829	100.0	....
Mexico	12,795	3,415	16,210	78.9	21.1
New Zealand	2,996	138	3,134	95.6	4.4
Norway	1,748	289	2,037	85.8	14.2
Peru	1,385	599	1,984	69.8	30.2
Poland	7,295	....	7,295	100.0	....
Portugal	712	1,334	2,046	34.8	65.2
Roumania (1919)	2,350	38	2,388	98.4	1.6
Russia & Siberia (1919)	37,800	11,281	49,081	77.0	23.0
Siam	1,376	65	1,441	95.5	4.5
Spain	....	9,538	9,538	....	100.0
Sweden	3,407	5,880	9,287	36.7	63.3
Switzerland	1,788	1,533	3,321	53.8	46.2
Turkey in Europe (1919)	1,200	231	1,431	83.9	16.1
Union of South Africa	9,542	1,933	11,475	83.2	16.8
United Kingdom	....	23,724	23,724	....	100.0
Total	259,231	167,179	426,410	60.8	39.2

There are, of course, various criteria of success, and it would be impossible for any system to satisfy them all; but public ownership, it is said, subserves the welfare of the people, and thus enlists their interest in its continuance.

The countries whose experience with public ownership is especially instructive are Germany, Switzerland, Italy, Belgium, Japan, and Australia. Much has been written about the German railroads, and especially about those of Prussia, the dominant state in the German Empire. In Germany, it should be noted, the railways that were publicly owned (and this included in 1913 more than nine-tenths of the total mileage) were owned by the several states, except for the railroads of Alsace-Lorraine. These lines, which were acquired by Germany shortly after the seizure of Alsace-Lorraine, were owned by the Imperial government, but operated by Prussia. It is unnecessary for our purposes—even did space permit—to describe the experience of the Prussian state railways, because all but the most unreasoning critics of public ownership concede that the management of the railroads in Prussia has been successful. Thus, Mr. Dunn, a vigorous but not an unreasoning critic of government ownership, said in 1913: "all must agree that . . . the German State lines, and especially those of Prussia-Hesse, rank among the best-managed railways in the world." [1] Professors Emory R. Johnson and T. W. Van Metre, also opposed to government ownership, in this country at least, admit that state ownership of railways in Prussia was "in the main satisfactory," and from a financial standpoint "highly successful." [2] Mr. Dunn is even more emphatic as to the financial results. He says, "from whatever standpoint the matter be regarded . . . the conclusion must be that financially the Prussian State railways have been a brilliant success. In this respect they are one of the most successful large systems of railways, whether public or private, in the world." [3] A striking development in recent years is the nationalization of the German lines. During the war the management of the railways was unified in the interest of military operations. After the war the railroads were not returned to their former owners, but instead were united into a national system. The Constitution adopted by the National Assembly of the German Republic in July, 1919, provided that the national government should acquire by April 1, 1920, the state railroads of general importance and such privately owned

[1] *Government Ownership of Railways*, p. 25. This book is the best in the English language in opposition to government ownership of railways.
[2] *Principles of Railroad Transportation* (1921), p. 398.
[3] *Government Ownership of Railways*, p. 313.

railroads as it cared to acquire. This nationalization program was carried out, and thereby Germany became the largest owner and operator of government railways of any country possessing a republican form of government. The advocate of government ownership points out that despite the change from a monarchy to a republic the people retained their railways, the only change being the substitution of ownership by the nation for ownership by the several states.

Switzerland definitely committed itself to federal ownership and operation by the referendum of 1898, and assumed the management of the four principal lines during the period from 1901 to 1903, and of the fifth in 1909. A careful investigation of the workings of government operation in Switzerland was made in 1912 by Professor A. N. Holcombe. Though Professor Holcombe does not speak as an opponent of government ownership, he is nevertheless an investigator of such undoubted competence that we may safely accept his conclusions. Summarizing the first decade of nationalization he said, "the Swiss federal railways have already reduced rates, improved the service, raised wages, and made a profit." [1] Again, "there has never been any dispute among the critics of the Swiss federal railways over the adequacy and efficiency of the service." [2] And Mr. W. M. Acworth, a critic of nationalization, writing in 1920 admitted that Switzerland "managed its railways, on the whole, with fair, if by no means brilliant success, until the breaking out of the European war upset the entire life of the country." [3]

In Italy most of the railroads are owned and operated by the government.[4] The people of Italy "have tried almost every possible relation between the state and the railroads." [5] During the twenty years preceding 1905 most of the mileage was owned by the government, but operated by private companies under con-

[1] *Quarterly Journal of Economics*, 26, p. 362.

[2] Ibid., p. 355.

[3] *Historical Sketch of State Railway Ownership* (1920), p. 15.

[4] However, negotiations are now under way that may lead to the restoration of private operation.

[5] "There has been state assistance of every kind—guarantees of interest, advances of capital, subsidies for building, subsidies for running. The state has built some of the roads. Others it has bought and paid for. Others it has bought and not paid for. It has tried various forms of management—direct state action, lease, and participation in profits." Hadley, A. T., *Railroad Transportation*, p. 220.

tract. This did not work well, and accordingly in 1905 government operation was substituted for private. In 1907 an important private line was purchased, and since then all the important lines have been owned and operated by the government. Mr. Tajani, writing in 1909, said: "to-day everybody in Italy (and I include those who until the last moment discountenanced the abandonment of the private system) agrees that we shall never return to the operation of railways by companies, not even if the government system should prove unprofitable to the public, and should give rise to all the difficulties commonly ascribed to government management. This is true, not only because, after the many experiments which we have made, we have become sceptical of the possibility of framing satisfactory and permanent contracts, but also because operation by the State, in the direction which it has taken in the last three years, has become very popular. As, in Roman times, the people demanded *panem et circenses* [bread and circus games], so to-day they insistently demand reductions in rates and increases in the number of trains, without any regard to the effects which these favors may have upon the State budget. . . . Gain is to be sought, not in the narrow budget of the railway itself, but in the economic budget of the nation. Of course, only a State railway system can act upon this principle." [1] Professors Johnson and Van Metre, writing seven years later, though maintaining that the new management had not achieved success from a financial standpoint,[2] concede that "conditions are much better than they were under the old system." [3]

In Belgium government ownership prevails, and apparently it has met with rather general satisfaction. Professor Mahaim, writing before the outbreak of the War, which so seriously disorganized the economic life of Belgium, said that "notwithstanding the criticism directed from time to time against State control, [he believed that he could safely say] that nobody in Belgium would wish to go back to the old *regime*." [4] According to the Prime Minister of Belgium, speaking in 1911, the surrender

[1] *Quarterly Journal of Economics*, 23, pp. 625–626.

[2] Mr. Tajani explains why railway operation must be relatively unprofitable in Italy. See *Quarterly Journal of Economics*, 23, pp. 621–623. See also Acworth, W. M., *Historical Sketch of State Railway Ownership*, p. 19.

[3] *Principles of Railroad Transportation* (1916), p. 439.

[4] Mahaim, Ernest, "The Belgian Experience of State Railways," in *The State in Relation to Railways* (1912), p. 68.

of the state railways to private companies would "provoke a revolution." [1]

In Japan most of the railway mileage is owned and operated by the government. The management of the railways is admitted by Mr. Dunn to have been successful, financially and otherwise, the explanation being the efficiency of the Japanese government, coupled with an earnest effort to realize economical operation.[2] According to Mr. Dunn the military character of the Japanese government, enabling it to get more out of its employees, is largely responsible for the success of state railway management.

All the railways in the Commonwealth of Australia that are engaged in general transportation are, with a few minor exceptions, owned and managed either by the respective states in whose territory they operate or by the Commonwealth itself; and have been so owned and managed for many years. Mr. Victor Clark, an impartial investigator, writing in 1908 said: "the evils predicted of government ownership in the United States are not now apparent in Australia . . . the railways are probably as extensive as could well be expected . . . the service maintained is not perfect, but is fairly satisfactory . . . general criticism of the railway administration is rare. There is so little opposition to government ownership that a person who seriously proposed returning to private control of railways would be considered decidedly eccentric." [3] Mr. Clark points out that there have been frequent deficits, due to the fact that rates have been maintained at a low level because of the popular demand and the desire to make the railways subservient to development, and due also to the construction of non-paying lines and branches. The Australians, however, view these deficits much as Americans look upon the postal deficits—that is without very great concern because of the obvious advantages of nationalization in each case. The general satisfaction with public ownership still persists apparently. Thus, Mr. Acworth, a severe critic of government ownership, said in 1920: "It must be frankly said that public opinion is entirely in favour of this system. No proposal to divest the States of their ownership would be listened to for a moment." [4]

[1] Mahaim, p. 69.
[2] *Government Ownership of Railways* (1913), pp. 324–325, 374.
[3] *Quarterly Journal of Economics*, 22, pp. 448, 451.
[4] *Historical Sketch of State Railway Ownership* (1920), p. 23.

The opponents of government ownership and operation maintain that the mere fact that there are more miles of state railways in the world (outside of the United States) than there are of private, and that the tendency is apparently toward state ownership and away from private, does not constitute an effective argument for the adoption of government ownership in this country. They point out that government ownership has been adopted in foreign countries for reasons that have little, if any, relation to the situation in this country. Some countries have been influenced to acquire the railways (or to retain them) by military considerations. Prominent examples are Prussia and the other German states, Russia (with its trans-Siberian railway), Austria, and Japan.[1] Some countries have been influenced by political considerations of one sort or another. Prussia again serves as an excellent illustration. During the early seventies Prince Bismarck, Germany's famous statesman, had proposed to nationalize the railroads of the country, and thereby achieve political unity for the new Empire. As this arrangement would have weakened the independence and strategic position of the individual states, several of the latter hastened to extend their state owned systems by acquiring the remaining private lines. Foiled in this move, Prussia proceeded to add to its state system of railroads until it came to occupy the dominant position in transportation. The motives behind this action were several. There was a desire to centralize authority and to make the state supreme in the life of the people. There was also a desire to employ the railroads as an adjunct to national trade policies, such as protection for German industries against foreign competition. There was a desire, furthermore, to make the railroads a source of revenue, and thus relieve the administration from undue dependence upon the legislative bodies for funds. This last motive may not have inspired state ownership in the beginning, but it undoubtedly kept the administration favorably disposed thereto. In other countries, also, political considerations prevailed. Belgium and Switzerland were both moved to extend or adopt government ownership in order to prevent the railroads from being controlled by foreign capitalists. And Canada acquired and developed the Intercolonial Railway in order to bind more closely together

[1] On Japan, see Watarai, Toshiharu, *Columbia University Studies in History, Economics and Public Law*, 63, pp. 59–61, 146.

its French and English provinces, and thus promote national unity.

Some countries have been influenced by economic considerations. The railways of Australia and New Zealand were built by the several states because private capital was not available. In Australia the possible profits in gold mining were so great that investments in railways did not attract capitalists. Accordingly the states found themselves obliged to provide the railroads; and once they had undertaken the task they continued to perform it. As Mr. Victor Clark says, public ownership in Australia was a necessity to which the country was forced to accommodate itself. Italy adopted government operation, says Mr. Tajani, because it lacked an industrial basis for the support of railways, and it could therefore successfully follow no other course.[1] Government operation seemed to be the only way to terminate the involved and unsatisfactory relationship between the government and its lessees. Government ownership was adopted in Egypt and South Africa to promote the development of the economic resources of these sections. France took over one of the leading six systems in 1909, largely because the company owed the state so much money that its repayment was doubtful; and even then the bill for the purchase of the railroad might not have passed had not Premier Clemenceau threatened to resign unless this action were taken. During 1918 to 1919 Canada acquired the Canadian Northern, the Grand Trunk Pacific, and the Grand Trunk, because these roads (especially the first two) had been extended unduly and were in a precarious financial condition. Even in Prussia, according to Professor Schumacher, the decisive and dominant factor in nationalization was the desire to utilize the railways in such manner as to promote the development of the economic resources of the nation.[2]

None of these reasons, however, would be likely to induce the United States to adopt a permanent policy of government ownership and operation. There is no need to nationalize the railroads because of military considerations; we enjoy a degree of protection by virtue of our size, wealth, and geographical position that makes military considerations relatively unimportant. Again,

[1] *Quarterly Journal of Economics*, 23, p. 651.

[2] "The Nationalization of Railways in Prussia: its Causes and Sequels," in *The State in Relation to Railways* (1912), p. 29.

there is no need from the standpoint of political considerations. There is no serious danger that our railroads will be controlled by foreign capitalists to our detriment; there is no reason to fear the breaking up of the country into separate political units; and we do not want to make the government dominant in the life of the people, nor to employ the railroads as an adjunct to national trade policies, nor to relieve the administration from dependence upon the legislative bodies for funds. Finally, such economic considerations as have been adduced have no force here. Ample capital can be attracted to the railroad industry; there is an ample industrial basis for the support of private railways; our railroads are not in debt to the government to an extent requiring drastic action; and our railroads are not in such a precarious condition as makes nationalization necessary. If we are to nationalize the railroads in this country we should do so for economic reasons, but for different reasons than those enumerated above. We should nationalize them, if at all, because we believe that nationalization would result in better and safer and more economical service, lower and more equitable rates, improved conditions of labor, and cleaner and purer government. The little democratic country of Switzerland seems to have embarked upon nationalization largely in order to realize these economic aims, but few indeed are the other countries that fall within this group. This being the case, the mere fact of the widespread adoption of government ownership in foreign countries constitutes no argument whatever in favor of the adoption of a similar policy in this country.

As to the argument that state ownership and operation in foreign countries has been successful, the opponent of this policy denies that this has been the case as a rule, and he asserts that even if it had been, it would not show that the same policy would succeed in this country, because of the great difference in conditions. We shall refrain, for lack of space, from a presentation of the reasons why government ownership is alleged not to have been successful in individual countries, and explain—what we regard as more important—why comparisons between the United States and foreign countries are of doubtful value in the choice of our national policy.

The outstanding example of successful state ownership and operation is Prussia. The friends of government ownership and operation "point with pride" to the results obtained there,

and argue that similar success would attend the nationalization of the railroads of our country. The critics of government ownership usually concede that Prussia managed its railways successfully, but they emphatically deny that this indicates that a similar success would be achieved in the United States. They maintain that the conditions in the two countries are so different that it is almost impossible to reason by analogy. Prior to the creation of the German Republic Prussia had a monarchical, autocratic, and strongly centralized government. The administrative head of the railroads—the Minister of Public Works—was appointed by the King of Prussia (who was ex-officio Emperor of Germany), and was responsible to the King alone. He was "absolutely beyond the reach of public opinion or of Parliament." Seldom were changes made in the administrative head or in any of the principal officials. The latter, as well as the mass of employees, were in the civil service. Moreover, military discipline was drastically enforced on the employees. The latter were not even allowed to organize railroad unions, and they would not have ventured to call a strike, even in their wildest moments. As regards politics, the distribution of offices in return for party favors was quite uncommon. The reader, even if he be only superficially familiar with American conditions, will note at once the marked contrast between Prussia and the United States. The difference in conditions, making comparisons difficult, can be further shown by an enumeration of some of the reasons why freight rates in Prussia and the United States cannot be scientifically compared. In Prussia bulky raw materials, such as coal, iron ore, and lumber, are usually carried by water; while in the United States they are usually carried by rail. In Prussia express packages are counted as freight, and charged high rates; in the United States they are also charged high rates, but they are handled by the express companies, and therefore do not count as freight. In Prussia the length of the haul is only about one-half of what it is in the United States, and as a result the rates include a relatively high terminal charge per ton mile. In Prussia prices and wages (prior to the War) were much lower that in the United States. For these and other reasons it is fairly held that Prussia's success in the management of its railways under fundamentally different conditions gives little or no indication as to the success of this policy if adopted by the United States.

The differences between conditions in the United States and countries other than Prussia are by no means always as great as those described above, but they are held to be sufficiently great none the less to make it unwise for our country to base its policy upon their experience. We would hardly embark upon government ownership and operation because it had been successful in Japan, Russia, Austria, or even Belgium. We might be influenced to a greater extent if it was successful in democratic Switzerland, yet the contrast between little Switzerland and the United States is too marked to require comment. Even more might we be influenced by the experience of Australia, but even here the differences are noteworthy. Says Mr. Victor Clark, who made a careful study of the railways of Australia, "statistical comparisons of the adequacy, economy, and efficiency of Australian and American railways are to be distrusted." [1] The success of government ownership in Canada, where there is being conducted an interesting experiment with government operation by a non-political board of directors, might properly exercise a decided influence upon our decision; for there is no country where physical, economic, and social conditions are more like our own. Yet it would be decidedly premature to say that success has been attained in Canada. As regards England, our mother country, from whose example we have profited so much and from whose institutions we have borrowed so freely, private ownership and operation still prevail, despite a war-time experience with government operation.

The truth is, say the advocates of private ownership, that "the relation of the railways to the state is a problem which each country must solve for itself. The adjustment to be made depends upon the conditions which are peculiar to its own national, social and industrial evolution." And the conditions are manifestly different in the United States from those anywhere else. From the standpoint of the magnitude of the undertaking there is no country that can fairly be compared with the United States. Our mileage is five times greater than that of any other country; and it is greater than the aggregate mileage of all the countries of Europe. Combined with this vast mileage, which could be effectively operated as a unit only if the management were exceptionally able, goes a democratic form of government, and one that is not particularly

[1] *Quarterly Journal of Economics*, 22, p. 448. See also pp. 400–401, 432–433, 444.

well adapted to large-scale administration. Whereas the continental ideal has been to develop a bureaucracy trained to carry on public enterprises on behalf of the people, the English and American ideal has been to circumscribe closely the business functions of the government. We therefore have failed to build up the political machinery and trained body of public servants that are found even in the European democracies. Consequently, so the argument runs, we should choose our national policy in the light of our peculiar conditions, bearing always in mind the individualistic temper of our people and the democratic character of our institutions.

Prerequisites to Successful Government Management

In concluding this discussion of government ownership, a brief statement may be made as to the prerequisites to successful government management. We have pointed out the possible advantages of government ownership and the possible dangers. What conditions must be present if the advantages are to be obtained and the dangers avoided?

First. Able and honest administrators must be chosen to manage the railways. The officials must be paid good salaries, assured a permanent position if their work is well and honestly done, and in general given such a status as will attract and hold the best talent.

Second. The rank and file of the employees must be treated fairly and humanely. They should be accorded adequate wages, reasonable hours, and satisfactory working conditions generally, including security of position. Fair treatment is demanded not only by considerations of justice and humanity, but also by the practical consideration that reasonable contentment promotes industry and efficiency. There should be provision for representation by the employees on government boards, where grievances may be satisfactorily adjusted. However, the employees must not be made a favored class, either in respect to their remuneration, or the quantity and quality of their work. The so-called "government stroke" could not be tolerated. If the employees receive a "square deal," strikes would be unnecessary, and should be prevented.

Third. Politics must be excluded from the management. This much dreaded danger was notable for its absence during the brief existence of the United States Railroad Administration, possibly

because of the war emergency. Unless it is kept out under a peace-time administration of the railways by the government failure might fairly be anticipated. To be sure, the railway administration must not be allowed to become unduly independent, else it would become a menace to the people, "a state within a state." Either the President of the United States or Congress should exercise control over the general policies of the Railroad Administration, in order that it might be kept responsive to the wishes of the people. If this duty were imposed upon the President he could act through a Director General of Railroads, or through a member of his cabinet (say a Secretary of Transportation), or through a non-partisan board of directors or commission (say the Interstate Commerce Commission). Yet neither the President nor Congress should interfere in the details of management, and above all they should not permit the intrusion of politics into the management. If they did the result would undoubtedly be disastrous.

Fourth. The finances of the railroads must be kept separate from the finances of the other departments of the government, and the accounts must be kept so that the financial results can be ascertained. Our view is that the railroads should be self-sustaining, and not operated as a means of raising revenue. To employ them as a fiscal device would mean that shippers, travelers, and consumers would be burdened in order that the taxpayers might be relieved. If this view be accepted, it follows that railway surpluses should be employed to reduce rates, or improve service, or raise wages, or to promote social welfare in some such way; and if railway deficits appear, steps should be taken to eliminate them as promptly as feasible. However, in order that we may know whether or not the railroads are self-sustaining their accounts must be kept so as to show the facts. The point may be illustrated by means of the post office. This government institution sometimes shows a profit, sometimes a deficit. The actual profit or deficit, however, is never disclosed. This is because both the postal revenues and expenses are understated, and not to the same degree. The postal revenues would be greater if other government departments and congressmen were not given the franking privilege, and the postal expenses would be greater if the post office were charged with the cost of new buildings. Such slipshod accounting methods, if applied to the railroads, might well lead to disaster, because there

would be no satisfactory check on expenditures for extensions and improvements, wages, and the like.

Fifth. There must be an intimate connection between the railway administration and the shipping and traveling public. This connection might well take the form of national and district councils representing the several interests of the community, whether agricultural, industrial, or commercial. Those who pay the freight and passenger rates might properly share in the responsibility of making them, and in this way it would be easier to prevent discriminations and undue rigidity. Above all, the rates must not be made by Congress, as tariff duties now are. The making of rates should be in the hands of the management or of the Interstate Commerce Commission; and there should be provision for close contact between the rate making body and the rate payers.

Sixth. As a corollary of the foregoing, an active and enlightened public opinion must be developed. The public must come to see the importance, nay the necessity, of securing and retaining a capable body of trained public servants, dedicated to the public service, and deaf to political considerations and to the pleas of special interests. It would be too much to expect the government railroad administration to maintain for long a stand very far in advance of that approved by the body of the people. In a democratic country the government could not permanently impose on the citizens a body of rules and regulations that did not command their support, even though these rules and regulations embodied principles that were essential to the success of the undertaking. Therefore, the education of the people to the point where they will demand honest and efficient administration of the railways in accordance with sound business principles, rather than as an adjunct of party politics, is a prerequisite to success in government ownership and operation.

Even though government management be undertaken in accordance with the aforementioned principles there could be no guarantee of its success. It might later appear that the very immensity of the organization, demanding an unusually high degree of business skill, imposed an insuperable barrier to success. Yet we believe that it can be safely said that unless we proceed along the lines indicated failure would result. And are we now prepared to accept these necessary safeguards in connection with a nationalization program? If not, the sincere friend of public ownership would

prefer to postpone the experiment until a more favorable season, providing that meanwhile regulation is fairly effective and the unwholesome influence of railroads upon our political life is not so pronounced as to compel action, despite the risks and dangers.

REFERENCES

Acworth, W. M.: *Historical Sketch of State Railway Ownership*, pp. 1–47 (1920).

Burton, Theodore E.: "The Scandal of the Federal Appropriation Bills," *World's Work*, vol. 25, pp. 438–443 (February, 1913).

Dunn, S. O.: *Government Ownership of Railways* (1913).

——: *Regulation of Railways*, chs. 12–14 (1918).

Holcombe, A. N.: "The First Decade of the Swiss Federal Railways," *Quarterly Journal of Economics*, vol. 26, pp. 341–362 (February, 1912).

Hooper, W. E.: "A Billion-and-a-half-dollar Experiment in Government Ownership," *Scribner's Magazine*, vol. 69, pp. 428–432 (April, 1921).

Johnson, E. R. and Van Metre, T. W.: *Principles of Railroad Transportation*, ch. 26 (1916); chs. 23, 31 (1921).

Lewis, D. J.: "Railway Nationalization," *Senate Document* no. 53, 56th Cong., 1st Sess. (1900).

Parsons, Frank: *The Railways, the Trusts, and the People*, pp. 503–522 (1906).

Sharfman, I. L.: *The American Railroad Problem*, ch. 6 (1921).

Todd, A. M.: *Hearings on Extension of Tenure of Government Control of Railroads*, 65th Cong., 3rd Sess., vol. 1, pp. 1326–1367 (1919).

Vrooman, Carl S.: *American Railway Problems*, ch. 15 (1910).

Wilcox, D. F.: "The Crisis in Public Service Regulation in New York," *National Municipal Review*, vol. 4, pp. 547–563 (October, 1915).

CHAPTER XXV

THE ESCH-CUMMINS ACT OF 1920

The Esch-Cummins Act [1] is a compromise between the Esch bill, named after the chairman of the House Committee on Interstate and Foreign Commerce, and the Cummins bill, named after the chairman of the Senate Committee on Interstate Commerce. The Esch bill was passed by the House on November 17, 1919, and the Cummins bill by the Senate on December 20. As there were marked differences between the two bills they were referred to a conference committee of representatives and senators, who were charged with the task of agreeing upon a bill that would prove acceptable to both the House and the Senate. It became clear that it would take considerable time for the conference committee to iron out the differences between the two measures, and accordingly President Wilson, who had announced on May 20, 1919 that the roads would be restored to their owners at the end of the year, extended (on December 24) the date of relinquishment to March 1, 1920. The conference committee reported out a compromise bill on February 18, 1920. This bill was accepted by the House on February 21, by a vote of 250 to 150; and by the Senate on February 23, by a vote of 47 to 17. It was approved by the President on February 28, just two days before the date set for the termination of federal control.[2]

The act (officially designated as the Transportation Act, 1920) will be described under the following headings: transitional provisions; rates; intercorporate relations; securities; service; and labor disputes.

Transitional Provisions

The act provides that federal control should terminate on March 1, 1920, and that the President should then relinquish possession of all systems of transportation under federal control. The Pres-

[1] 41 Statutes at Large, part I, pp. 456–499.

[2] On the legislative history of the act, see Sharfman, I. L., *The American Railroad Problem*, pp. 383–399.

ident was directed to adjust and settle, as soon as practicable, all questions and disputes, including compensation, arising out of federal control; and was supplied with the necessary funds. By these provisions the Director General, who continued to act as the agent of the President,[1] became little more than a liquidator of claims. It was further provided that if the indebtedness of any railroad to the United States, incurred on account of additions and betterments made to the railroad's property at government expense, exceeded the indebtedness of the United States to the railroad, the President was authorized, upon request of the railroad, to fund the excess for a period of not more than ten years. The railroad was to give satisfactory security, and to pay interest at six per cent. The effect of this provision was to enable the railroads to postpone the payment of their indebtedness to the government until the investment market was more favorable, and thus to strengthen their credit. In further recognition of the fact that it would be difficult for the railroads during the transition period to raise the money that they would require if they were to serve the public adequately, the sum of $300,000,000 was appropriated for new loans. Any railroad might make application to the Interstate Commerce Commission within two years after the termination of federal control for a loan from the United States. If the Commission found that a loan was necessary to enable the road properly to meet the transportation needs of the public, and if it found that the security was adequate, it might certify its findings to the Secretary of the Treasury, who might thereupon make a loan to the road for a period not to exceed five years, and at an interest rate of six per cent.[2]

The act continued the government guarantee for a period of six months, that is, until September 1, 1920. The continuation of the guarantee for a limited period was thought to be necessary to protect the railroads from serious financial embarrassment, and in some cases even from insolvency. At the level of rates then in effect the government had lost hundreds of millions of dollars, and there was every reason to believe that these losses would continue under private operation until the Interstate Commerce

[1] Mr. Hines retained the position of Director General until May 15, 1920. His successors were Judge John Barton Payne and Mr. James C. Davis.

[2] This section of the act was amended on June 5, 1920.

Commission had an opportunity to adjust the rates to the new conditions,—a step that Director General Hines had deliberately refrained from taking during his administration of the railroads. Accordingly the act stipulated, substantially, that the United States would guarantee to such railroads as filed written acceptance of the guarantee by March 15 a sum equal to one-half of their annual just compensation during the period of federal control. If during the guaranty period a railroad earned more than the guarantee, the excess was to become the property of the United States. The Interstate Commerce Commission was given authority to revise the accounts, so as to make sure that the government was not defrauded through the understatement of revenues or the overstatement of expenses. No railroad was required to accept the guarantee, but by far the greater number of them did. Since the government under the guarantee would have to reimburse the railroads for deficiencies in income, it was provided that no rate or fare should be reduced prior to September 1, 1920, without the approval of the Interstate Commerce Commission.

Rates

(1) *Rule of Rate Making.* Perhaps the leading provision of the act, and certainly the one of most benefit to the railroads, is that prescribing the rule of rate making to be followed by the Interstate Commerce Commission. The importance of this rule justifies its statement substantially in full and substantially in the language of the act. In the exercise of its power to prescribe just and reasonable rates the Commission shall initiate and establish rates under which carriers as a whole (or as a whole in each of such rate groups as the Commission may from time to time designate) will, under honest, efficient, and economical management, and under reasonable expenditures for maintenance, earn an aggregate annual net railway operating income equal, as nearly as may be, to a fair return upon the aggregate value of the railway property of such carriers used in the service of transportation. The Commission shall from time to time determine and make public the percentage of such aggregate property value that constitutes a fair return thereon, and this percentage shall be uniform for all the rate groups that may be designated by the Commission. In making such determination it shall give due consideration to the transportation needs of the country, and to the necessity (under

honest, efficient, and economical management of existing transportation facilities) of enlarging these facilities in order to provide the people with adequate transportation: *Provided,* that during the two years ending February 28, 1922, the Commission shall take as the fair return a sum equal to 5½ per cent of the aggregate value, with power to add thereto, in its discretion, a sum not exceeding one-half of one per cent to cover outlays for improvements, betterments, and equipment which are properly chargeable to capital. The aggregate value of the property shall be determined by the Commission, which may utilize the results of its investigation under the valuation act, in so far as deemed by it available, and which shall give due consideration to all the elements of value recognized by the law of the land for rate making purposes. Whenever the value of the railway property of any carrier used in the service of transportation has once been finally ascertained, this value shall be used by the Commission in determining the aggregate value.

The enactment of a statutory rule of rate making was decidedly welcome to the railway interests. The gain was at least two-fold. The Mann-Elkins Act of 1910, it will be recalled, gave the Interstate Commerce Commission power to suspend proposed changes in rates, and in the case of rate increases placed the burden of proof upon the railroad. To prove that the increased rates were reasonable was difficult, and the result was that most of the applications of the railroads for higher rates (to meet advancing costs) were denied in whole or in part. The Esch-Cummins Act, however, required the Commission to *initiate* and establish rates that would enable the railroads to earn a fair return upon the aggregate value of their property, and thus placed upon the Commission responsibility for the establishment of reasonable rates. Incidentally it relieved the railroads from the necessity of *proving* that the general level of rates was unreasonably low. In the event, however, that the rates in effect enabled the railroads to earn a fair return, the burden of proof was still upon the railroad to show that a particular rate should be increased. In the second place, the railroads gained through the requirement that the Commission, in determining the fair rate of return, give due consideration to the necessity of enlarging the transportation facilities of the country in order to provide the people with adequate transportation. Under the former law as interpreted by

the courts the railroads were protected against the establishment of rates that were confiscatory, because the establishment of such rates was in violation of the constitutional provision against taking property without due process of law. The railroads thus enjoyed protection against confiscatory rates, in the event that the Commission overstepped the bounds of its discretion. Yet there is a considerable difference between rates that fail to receive judicial displeasure on the score of their confiscatory character, and rates that are designed to be adequate to supply enlarged transportation facilities. Whether or no the Commission was niggardly in its rate policy after 1910—as is often charged—we think there can be no doubt that the effect of the rule of rate making will be to make the Commission more generous to the railroads, and thus reduce the prospect that the courts will be called upon to protect the railroads against the Commission. Whereas the Commission was formerly charged with the responsibility of safeguarding the people against unreasonable and discriminatory rates, it now has the added duty of establishing a level of rates that is adequate. To the railroads this is an undoubted gain.

The rule of rate making, it should be understood, does not constitute a guarantee, either for the roads individually or as a whole. It does not constitute a guarantee for individual railroads, because the statutory requirement is merely that rates shall be such as will enable the railroads as a whole (or as a whole in such rate groups as the Commission may designate) to earn a fair return upon the *aggregate* value of the property. The Commission, as a matter of fact, divided the country for this purpose into four rate making groups. If, therefore, one railroad within a particular group makes more than a fair return upon the value of its property, and if all the railroads of the group together make only a fair return upon the aggregate value of their property, it follows that some other railroad within the group must make *less* than a fair return upon the value of its property. The framers of the act realized full well that there would be numerous railroads which, notwithstanding the rule of rate making, would earn less than the fair return fixed by Congress and (after March 1, 1922) by the Commission. Moreover, there is no guarantee for the railroads as a whole or for the railroads of any rate group. The Commission is directed to establish rates that will enable

the railroads to earn a specified rate of return, but if it fails to do so the railroads can not get reimbursement from the Treasury as they did between January 1, 1918 and September 1, 1920. It is therefore incorrect to say that the railroads enjoyed a guarantee after September 1, 1920. The fact is, as we shall show later, that for several years after the passage of the Esch-Cummins Act the rates established by the Commission failed to give the railroads the fair return fixed by Congress, and yet no one made up to them this deficiency in income. To call a statutory rule that has this result a guarantee bespeaks a contempt either for the meaning of words or for the sacred obligation to tell the truth.

(2) *Division of Excess Earnings.* In recognition of the fact that it is impossible to establish uniform rates upon competitive traffic which will adequately sustain all the railroads that are engaged in such traffic, without enabling the more favorably located or better managed roads to receive an income unreasonably in excess of a fair return upon the value of their property, the act provides for the division of excess earnings between the railroads and the government. A railroad receiving in any year a net railway operating income in excess of six per cent upon the value of its property may retain one-half of the excess, but must turn the other half over to the Interstate Commerce Commission. The half retained by the railroad is to be placed in a reserve fund established and maintained by it. In the event that its net railway operating income subsequently falls below six per cent upon the value of its property, the railroad may draw upon its reserve fund for the purpose of paying interest, rentals of leased lines, and dividends, but for no other purpose. However, after and so long as the reserve fund equals five per cent upon the value of its property, the railroad may employ its half of the excess earnings for any lawful purpose, including, of course, the payment of larger dividends to its stockholders.

The half of the excess earnings turned over to the Commission is to be used to establish and maintain a general railroad contingent fund. This fund is to be used by the Commission "in furtherance of the public interest in railway transportation either by making loans to carriers to meet expenditures for capital account or to refund maturing securities originally issued for capital account, or by purchasing transportation equipment and facilities and leasing the same to carriers." The Commission is to make loans

or lease equipment only when this is "necessary to enable the applicant properly to meet the transportation needs of the public," and when there is reasonable assurance of the ability of the applicant to pay the interest or rental charges, as the case may be. The Commission is authorized to prescribe the terms and conditions of the loan or lease, subject to the proviso that the interest rate on the loans shall be six per cent, and that the rental charges shall be sufficient to pay at least six per cent, plus allowance for depreciation, upon the value of the equipment or facilities leased. The interest on the loans, the principal of the loans when paid, and the rentals are to be placed in the general railroad contingent fund, and are thus to be available for further loans or leases.

The primary purpose of this section providing for the division of excess earnings (commonly called the recapture clause) is to build up a fund that can be used to supply the weak roads with credit and facilities. It is important to note, however, that the earnings of the strong roads are not to be transferred to the weak ones. The act is based upon the assumption that the level of rates must be sufficiently high to enable some roads to earn more than a fair return. Half of the excess earnings these railroads are allowed to retain, as a reward for favorable location or good management, and as an incentive to increased efficiency; and the other half the government appropriates. The government's half is thereupon to be available for loans, etc., to the less prosperous roads, but the latter are to pay the government in full, indeed they are to pay the government a rate of interest considerably above that at which the government can borrow in the open market.

In the opinion of Mr. Daniel Willard, the president of the Baltimore and Ohio Railroad, and one of the principal spokesmen for the railroads, without some such provision as the recapture clause private ownership and operation of railroads in this country can not endure.[1] His argument is that it is only because of the necessities of the less fortunate roads that the more fortunate ones are permitted to charge rates high enough to produce excess earnings. The public will submit to these excess earnings if it can share therein, but if it can not constitutionally appropriate a portion of the excess it will not be willing to sanction a level of rates adequate for the less fortunate roads, in which event private ownership and operation will fail.

[1] *Proceedings of the Academy of Political Science*, 10, pp. 81–82.

(3) *Minimum Rates.* Prior to the passage of the Transportation Act the Commission did not have the power to fix the exact rate. It could establish a rate which the railroads might not exceed, but it could not establish a rate which they might not cut under. The result was that the rates to competitive points were often unduly low as compared with the rates to noncompetitive points. The prohibitions of the long and short haul clause imposed a limit to such discrimination, yet within this limit discrimination was possible and frequently practiced. The act of 1920, however, definitely gives to the Commission the power to fix the minimum rate as well as the maximum, and thus, it would appear, the power to fix the exact rate. In the exercise of this power the Commission will be able to prevent rate wars, should the railroads be disposed, particularly in a period of industrial depression, to increase the volume of their tonnage by reductions in rates; and it will be able to prevent the elimination of the competition of water lines through the establishment by the railroads of low rates for the express purpose of driving out their competitors.

(4) *Long and Short Haul Clause.* This clause as amended in 1910 forbade a railroad to charge more for a shorter distance than for a longer, when the short distance was included in the longer, and when the haul was in the same direction; but authorized the Interstate Commerce Commission in special cases to prescribe the extent to which a railroad might be relieved from this prohibition. The Esch-Cummins Act retains this provision, but imposes three limitations on the discretionary power of the Commission. (a) In the exercise of its power the Commission is not to permit the establishment of any charge to or from the more distant point that is not reasonably compensatory. (b) It is not to authorize a lower rate to the more distant point on account of potential water competition not actually in existence. (c) It is not to allow a circuitous line, in meeting the competition of a more direct line, to charge at those intermediate points on its line which are as near to destination as the direct line is long rates that are any higher than those charged by the direct line. To make this involved rule clear by an illustration, it is 909 miles from New York to Chicago by the Pennsylvania Railroad (via Fort Wayne), and 1046 miles by the Baltimore and Ohio. The distance is 137 miles greater by the Baltimore and Ohio, which may thus be regarded as the circuitous line to Chicago. By the Baltimore

and Ohio it is 95 miles from New York to Philadelphia, and 191 miles from New York to Baltimore. In meeting the competition of the Pennsylvania Railroad for New York-Chicago traffic the Baltimore and Ohio Railroad may be permitted by the Commission to make lower rates from New York to Chicago than from Philadelphia to Chicago, because the distance from Philadelphia to Chicago by the Baltimore and Ohio is greater than the distance from New York to Chicago by the Pennsylvania. But the Commission can not authorize the Baltimore and Ohio to charge lower rates from New York to Chicago than from Baltimore to Chicago, because the distance from Baltimore to Chicago by the Baltimore and Ohio is less than the distance from New York to Chicago by the Pennsylvania.

The reader must not infer from this illustration that the Baltimore and Ohio would actually charge more from Philadelphia to Chicago than from New York to Chicago; if it did, it would lose the lucrative Philadelphia trade to the Pennsylvania Railroad. We have used these large cities to illustrate the point merely because their location is familiar to every one. The fact is, of course, that the intermediate points that are discriminated against in practice are usually the relatively unimportant towns, with the location of which most readers would naturally be unfamiliar. It is precisely because they are relatively unimportant, however, that they require legislative and administrative protection.

(5) *Regulation of Intrastate Rates.* The discriminatory effect of state-made rates upon interstate commerce, and the conflict of authority between the federal and state governments over this issue, were described in chapter X. The Esch-Cummins Act settles this controversy in favor of the national government. It provides that whenever the Interstate Commerce Commission finds that any rate, fare, or classification made by authority of any state (or initiated by the President during the period of federal control) causes any unreasonable preference as between persons or localities in intrastate commerce on the one hand and interstate or foreign commerce on the other, or causes any unreasonable discrimination against interstate or foreign commerce, the Commission shall prescribe the rate, fare, and classification thereafter to be observed, in such manner as will remove such preference or discrimination. The rate, fare, and classification established by the Commission are to be observed, "the law of any State or

the decision or order of any State authority to the contrary notwithstanding." The Commission is required to notify interested states of the investigation, and it may confer with the appropriate state authorities and hold joint hearings with them, but authority to remedy the discrimination is vested solely in the federal regulating body.

(6) *Suspension of Proposed Changes in Rates.* In one respect the authority of the Interstate Commerce Commission is somewhat curtailed by the Esch-Cummins Act. The Mann-Elkins Act of 1910 had authorized the Commission to suspend proposed rate changes for an initial period of 120 days, and if it could not reach a decision by that time to extend the suspension for a further period of six months. In the rate increase cases from 1910 to 1917 the Commission had taken considerable time, to the detriment of the railroads anxiously awaiting a decision. The Esch-Cummins Act reduces the second period of suspension to thirty days, making the total period of suspension five months instead of ten. It further provides that if at the end of the 150 days the Commission has not rendered a decision, the proposed changes shall go into effect; but the Commission, in the case of a proposed increase in rates, may require the interested railroad or railroads to keep accurate account of all amounts received by reason of the increase, and may upon completion of the decision require the refund, with interest, of that portion of the increase which is found to be unjustified. The refund is to be made to those persons who have paid the excessive rate or fare.[1]

Intercorporate Relations

The earlier legislation applicable to railways was based upon the principle that competition among railroads should be preserved both as to rates and service. The Esch-Cummins Act retains this principle as to service, but abandons it as to rates by sanctioning the consolidation of competing railroads, the acquisition by one railroad of control over another, whether through lease or stock ownership, and the pooling of traffic and earnings. In every case, however, the approval of the Interstate Commerce Commission is made a prerequisite to the consolidation, lease, stock ownership, or pool, as the case may be.

(1) *Consolidation.* The act provides that the Commission shall

[1] On the injustice of this arrangement in practice, see p. 243.

as soon as practicable prepare and adopt a plan for the consolidation of the railway properties into a limited number of systems. In the division of the railways into systems under the plan, competition is to be preserved as fully as possible, and wherever practicable the existing routes and channels of trade are to be maintained. Subject to the foregoing requirements, the several systems are to be so arranged that the cost of transportation as between competitive systems and as related to the values of the several properties shall be the same, so far as practicable, in order that these systems may employ uniform rates in the movement of competitive traffic, and under efficient management earn substantially the same rate of return upon the value of their respective railway properties. After the Commission has agreed upon a tentative plan, it is to make it public and to hear all persons who wish to present objections thereto. Upon the conclusion of the hearings the Commission is to adopt a plan, and all consolidations thereafter effected are to be in harmony with this plan.

The act then declares that it shall be lawful for two or more carriers by railroad to consolidate their properties, or any part thereof, into one corporation if (a) the proposed consolidation is in harmony with the plan of the Commission and receives its approval, and if (b) the capitalization of the corporation that is to become the owner of the consolidated properties does not exceed the value of these properties as determined by the Commission. Upon the filing of an application for consolidation the Commission is to proceed immediately to ascertain the value of the properties involved therein.

The procedure to be followed by railroads desiring to consolidate their properties is to present an application to the Commission. The latter is then to notify the railroads concerned in the proposed consolidation of the time and place for a public hearing, and to notify also the Governor of each state in which any of the properties are located. If, after the hearing, the Commission finds that the public interest will be promoted by the consolidation, it may enter an order authorizing the consolidation upon such conditions as it prescribes, and thereupon the consolidation may be effected, "the law of any State or the decision or order of any State authority to the contrary notwithstanding." The railroads that are parties to the consolidation and any corporation organized to effect it in accordance with the order of the Commission are to be relieved from

the operation of the anti-trust laws, and from all other prohibitions, state or federal, in so far as may be necessary to enable them to do anything authorized or required by the order of the Commission.

The consolidations above provided for are permissive rather than compulsory. They represent another attempt to solve the problem of the strong and weak roads,—a problem also dealt with by the so-called recapture clause. It remains, however, for the future to disclose whether the strong roads will care to dilute their earnings by uniting with the weak.

(2) *Acquisition by One Carrier of Control over Another.* The act provides that the Commission may, upon application, authorize one carrier to acquire control over another, whether under a lease, or by the purchase of stock, or in any other manner not involving the consolidation of the carriers into a single system. The Commission may give its approval only if it believes that the acquisition will be in the public interest; and it may attach to its order of approval such terms and conditions as it finds just and reasonable. The carriers that are parties to the combination approved by the Commission are to be relieved from the operation of the anti-trust laws as to the combination effected.

(3) *Pooling.* The anti-pooling section of the Act to Regulate Commerce was modified to authorize the carriers to pool their freight or earnings, with the specific approval of the Commission. The latter may not give its approval, however, unless it finds that pooling will result in better service to the public or in economy of operation, and will not unduly restrain competition. To its approval the Commission may attach such conditions as it deems just and reasonable.

The enactment of this section several years ago would have been hailed by the railroads as a great victory, but it has less significance now in view of the other provisions of the Transportation Act, notably those authorizing consolidations, leases, stock ownership, and the fixing of minimum rates by the Commission.

(4) *Interlocking Directorates.* The section dealing with interlocking directorates imposes new restrictions upon intercorporate relationships, but increases the authority of the Commission. It declares that after December 31, 1921, it shall be unlawful for any person to be an officer or director of more than one carrier, without the authorization of the Commission, and without due showing

that neither public nor private interests will be adversely affected thereby.

Securities

The act provides that within 120 days after its passage no railroad shall issue any securities, or assume any obligation or liability in respect of the securities of any other person, even though permitted by the state in which it is incorporated, without the consent of the Interstate Commerce Commission.[1] Upon receipt of an application for the necessary authority the Commission is to give notice thereof to the Governor of each state in which the railroad operates; and the appropriate state authorities may then make before the Commission such representations as they deem proper for conserving the rights of their people. The Commission is empowered, after investigation, to grant or deny the application, in whole or in part, and to attach to its approval such terms and conditions as it deems necessary and appropriate. The jurisdiction conferred on the Commission in the regulation of securities is exclusive; the railroad need not secure approval from any other agency. However, there are imposed certain limitations on the Commission's authority. It may not approve any issue unless it is for some lawful object within the corporate purposes of the railroad; unless it is compatible with the public interest; and unless it is necessary for the proper performance by the railroad of service to the public. The Commission is directed to require reports from the railroads, showing the disposition made of securities and the application of the proceeds. Any securities issued without the authorization of the Commission, or contrary to the terms of its order of approval, are void. If any person acquires for value and in good faith a security thus rendered void, he may hold liable for the full amount of the damage sustained by him both the railroad that issued the security and the officers and directors who participated in its issuance and sale. Penalties, including fine or imprisonment, or both, are provided for officials who knowingly assent to the issuance or sale of securities contrary to the Commission's order, or to the improper application of the proceeds. However, nothing in this sec-

[1] This provision does not apply to notes maturing not more than two years after the date of issue, and aggregating (together with all other such notes then outstanding) not more than five per cent of the par value of the securities of the railroad.

tion is to be construed "to imply any guaranty or obligation as to such securities on the part of the United States."

This conferring upon the Commission of authority to regulate security issues should operate to prevent in the future those altogether too frequent cases of railroad looting that have in the past brought grave discredit upon prominent bankers and railway officials, and thus indirectly made much harder the lot of the honest officials and of the innocent stockholders. It was agreed upon all sides that whatever form remedial legislation took, the regulation of securities by the Commission should be included therein. It is perhaps not too much to hope that the evils of "high finance" as applied to railroads are now definitely at an end.

Service

By the Esch-Pomerene Act, enacted in May, 1917, the Commission had been empowered to regulate car service, which was defined to include "the movement, distribution, exchange, interchange, and return of cars used in the transportation of property." By the Esch-Cummins Act the power of the Commission over service is greatly extended. Car service is defined to include the use, control, and supply of cars, as well as their movement, distribution, etc.; to include the use, control, supply, movement, etc., of locomotives and other vehicles; and to include the supply of trains. It is made the duty of every railroad to furnish safe and adequate car service. The Commission is authorized to compel the railroads to provide themselves with safe and adequate facilities for performing their car service; and specifically to compel them to install automatic train-stop or train-control devices or other safety devices, which comply with its specifications. Within ninety days after the passage of the act no railroad may extend its line, or construct a new one, without first obtaining from the Commission a certificate that the public convenience and necessity require the extension or construction; and no railroad may abandon all or part of its line without a similar certificate. The Commission may issue the certificate or refuse to issue it; and may attach to its issuance such terms and conditions as in its judgment the public convenience and necessity demand. Moreover, the Commission is given authority to *require* the railroads to extend their lines, subject to the limitation that no such order shall be made unless the Commission finds that the extension is

reasonably required in the interest of public convenience and necessity, and will not prove so expensive as to impair the ability of the railroad to perform its duty to the public. This provision has been characterized as "a drastic measure without precedent in our theory of railroad regulation." [1] The Commission is also given power to order the use of the terminal facilities of one railroad by another, whenever this is in the public interest, and is practicable, and will not substantially impair the ability of the railroad owning the terminal to handle its own business. Compensation is to be on such terms as the railroads agree upon, or, in the event of their failure to agree, on such terms as the Commission fixes, provided that the railroad owning the terminal may sue, if dissatisfied with the compensation fixed, for damages to cover injuries sustained by it. Whenever in the opinion of the Commission any railroad is unable to transport the traffic offered it so as to serve the public properly, the Commission may make such directions with respect to the routing of this traffic over other roads as will best promote service and commerce.

Whenever a shortage of equipment, congestion of traffic, or other emergency exists, demanding, in the opinion of the Commission, immediate action, the Commission is authorized, at once, without notice or hearing: (a) to suspend the operation of all rules and regulations with respect to car service; (b) to make such just directions with respect to car service, without regard to the ownership of locomotives or cars, as will in its opinion (during the emergency) best promote the service in the interest of the public; (c) to require such joint or common use of terminals, including main-line tracks for a reasonable distance outside of the terminals, as will best meet the emergency and serve the public interest; and (d) to give directions for preference or priority in transportation, embargoes, or movement of traffic under permits, at such time and for such periods as it may determine. In the event of war or threatened war the President may certify to the Commission that it is essential to the national defense and security that certain traffic have preference or priority in transportation, and the Commission shall thereupon direct that such preference be afforded.

[1] On new construction and abandonments, see Vanderblue, H. B. and Burgess, K. F., *Railroads*, ch. 20.

Labor Disputes

The act declares it to be the duty of the railroads and their officers, employees, and agents to exert every reasonable effort and adopt every available means to avoid any interruption to the operation of a railroad growing out of a dispute between the railroad and its employees or subordinate officials. All such disputes are to be considered and, if possible, decided in conference between representatives of the railroads and of the employees. In the event that a dispute is not decided in conference, it is to be referred by the parties to the board authorized by the act to hear and decide the dispute.

The act provides for two types of boards. It authorizes the creation of Railroad Boards of Labor Adjustment, and it requires the creation of a Railroad Labor Board. The former may be established by agreement between any railroad, group of railroads, or the railroads as a whole, and any employees or organization of employees. The jurisdiction of the Railroad Boards of Labor Adjustment is confined to disputes involving grievances, rules, or working conditions. Disputes involving wages are outside their jurisdiction. If a Railroad Board of Labor Adjustment is created by agreement, it is to hear and decide disputes within its jurisdiction upon (1) the application of the chief executive of any railroad or organization of employees; (2) the written petition of not less than 100 unorganized employees directly interested in the dispute; (3) the Adjustment Board's own motion; or (4) the request of the Railroad Labor Board whenever this board is of the opinion that the dispute is likely to interrupt commerce substantially.

The act requires the creation of a Railroad Labor Board. The board is to be composed of nine members, all of whom are to be appointed by the President. Three of the nine are to constitute the public group, three the management group, and three the labor group. The members of the public group are to be named directly by the President; the members of the management group are to be chosen by the President from a list of six names presented by the railroads; and the members of the labor group from a list of six names presented by the employees. No one is eligible to serve on the Labor Board who, during the term of his office, is an active member of, or in the employ of, or an officer in, any organization of

employees or any railroad, or who is financially interested therein.[1] The salary of members is fixed at $10,000 per year, and the term of office at five years. Members are removable by the President for neglect of duty or malfeasance in office, but for no other cause.

The Labor Board is directed to hear and decide three classes of disputes. First, those involving grievances, rules, and working conditions, when an agreement to create an Adjustment Board is not reached. These disputes are to come before the Labor Board upon (1) the application of the chief executive of any railroad or organization of employees; (2) the written petition of not less than 100 unorganized employees directly interested in the dispute; and (3) the Labor Board's own motion if it is of the opinion that the dispute is likely to interrupt commerce substantially. Second, disputes involving grievances, rules, and working conditions, which the Adjustment Boards are not able to decide within a reasonable time. Third, disputes with respect to wages or salaries, not decided in conference between the railroads and their employees. These disputes are to come before the Labor Board through identically the same procedure as disputes involving grievances, when an Adjustment Board for the purpose of settling these disputes fails to be established. Even when a dispute over wages has been settled in conference between the railroads and their employees the Labor Board may, within ten days after the settlement, suspend its operation if in the opinion of the Board it involves such an increase in wages as will be likely to necessitate a substantial readjustment of railroad rates. A settlement thus suspended must be affirmed or modified by the Board as soon as practicable. The decisions of the Labor Board require the concurrence of at least a majority; and decisions relating to wages require in addition the concurrence of at least one member of the public group. This provision was inserted presumably because, under the rule of rate making, wage increases would probably be borne by the public.

The decisions of the Labor Board in respect to wages or salaries, and the decisions of the Labor Board or an Adjustment Board in respect to working conditions, are to establish rates of wages, salaries, and standards of working conditions, which in the opinion of

[1] However, no member of the Labor Board is compelled to relinquish honorary membership in any organization of employees, nor to relinquish his rights in any insurance, pension, or other benefit fund maintained by an organization of employees or by a railroad.

the board are just and reasonable. In determining the justness and reasonableness of such wages, salaries, and working conditions the board is to take into consideration among other relevant circumstances: (1) the scale of wages paid for similar kinds of work in other industries; (2) the relation between wages and the cost of living; (3) the hazards of the employment; (4) the training and skill required; (5) the degree of responsibility; (6) the character and regularity of the employment; and (7) inequalities of increases in wages or of treatment, the result of previous wage orders or adjustments.

The Labor Board is directed to investigate and study the relations between railroads and their employees, particularly questions relating to wages, hours of labor, and other conditions of employment; and to gather and publish from time to time data and information relating to these questions.

In order that the Labor Board may efficiently administer the functions vested in it, its members are authorized to require the attendance of any witness, and the production of any book, paper, document, or other evidence from any place in the United States, at any designated place of hearing.

The Labor Board, in case it has reason to believe that its decision or the decision of an Adjustment Board is being violated, may upon its own motion, after due notice and hearing to all persons directly interested, determine whether a violation has occured, and may make public its decision thereon. From this provision it is clear that the Labor Board is given no power to enforce its decisions; there are no penalties for disobedience to its order. The Cummins bill in effect forbade railway strikes, but in the measure as finally enacted reliance is placed solely upon public opinion to compel obedience to the decisions of the labor tribunals.

It is evident from the foregoing summary of the Transportation Act that the authority of the Interstate Commerce Commission over railways is now well-nigh complete. It has authority over rates, including power (1) to fix maximum and minimum rates; (2) to prevent discriminations in rates against localities, persons, and commodities; (3) to regulate intrastate rates when necessary to prevent discrimination against interstate commerce; (4) to suspend proposed changes in rates; (5) to decide what is an adequate level of rates, and to initiate rates that will be adequate; (6) to appropriate excess earnings, and to employ the fund thus created

in making loans to railroads and in purchasing equipment to be leased to them. It has authority over service, including power to require the railroads (1) to furnish safe and adequate facilities; (2) to extend their lines; (3) to refrain from new construction and from the abandonment of lines already constructed; (4) to permit the use of their terminals by other railroads; (5) to divert traffic that they can not handle properly to other railroads; and (6) in times of emergency still further powers. The Commission has authority over intercorporate relations, including power to approve (1) consolidations, (2) the control of one railroad by another through lease or stockownership, (3) pooling, and (4) interlocking directorates. It has authority over securities, valuation, accounts, and a host of other matters. It has not, to be sure, authority over wages, which constitute the largest single item in railway expenses, yet the Commission does not desire this authority. To handle the wide range of duties imposed upon it, the membership of the Interstate Commerce Commission was increased by the Esch-Cummins Act from nine to eleven; and for this reason, and because of the advanced cost of living, the salary was increased from $10,000 to $12,000.

Whether the experiment with government regulation of railways on which we are now embarked will prove successful will depend primarily upon the character of the Interstate Commerce Commission. In the future, however, it will no longer be possible for the advocates of regulation to explain its failures upon the score of the inadequacy of the Commission's powers. This was formerly a more or less valid argument, but by the passage of the Esch-Cummins Act it has lost its validity. Whatever else may be said about the Esch-Cummins Act—and it has its bitter critics—it has the prime merit of putting the experiment of railway regulation squarely to the test. Should this experiment prove to be a failure the logical next step would appear to be the ownership and operation of the railways by the government.

We now turn in the concluding chapter to describe the principal developments since the passage of the Esch-Cummins Act.

REFERENCES

Dixon, F. H.: *Railroads and Government*, chs. 16–17, 19, 21 (1922).

Rich, E. J.: "The Transportation Act of 1920," *American Economic Review*, vol. 10, pp. 507–527 (September, 1920).

Sharfman, I. L.: *The American Railroad Problem*, ch. 11 (1921).

CHAPTER XXVI

PRINCIPAL DEVELOPMENTS SINCE THE PASSAGE OF THE ESCH-CUMMINS ACT

Transition to Private Operation

The transition from government operation to private operation was effected on March 1, 1920, without confusion. The facility of transfer was due to the fact that the operating organization of every important railroad had been preserved practically intact; and therefore the termination of government operation involved in the main merely the abolition of the government organization that had been superimposed upon the corporate organizations. From the financial standpoint the transition to private operation was facilitated by the fact that the Esch-Cummins Act authorized the railroads to fund their net indebtedness to the United States, and authorized the Interstate Commerce Commission to make new loans to the railroads to an amount not exceeding $300,000,000.[1] Much more important from the financial standpoint, however, was the continuation of the government guarantee. As we explained in the chapter on Government Operation, Director General Hines had deliberately refrained during the later part of his administration from raising rates to an adequate level, preferring instead to meet the deficit thus sustained out of the public funds. At the rates in effect on March 1, 1920, therefore, the railroads were certain to incur enormous losses, with disastrous consequences for the security owners, not to mention the shippers and the general public. To avoid this result, and to give the Railroad Labor Board and the Interstate Commerce Commission time to readjust wages and rates, the government guarantee was continued for six months, that is, until September 1. It was optional with the railroads to accept the guarantee or not, but in view of the discouraging outlook for the guarantee period most of them elected to do so. It was

[1] On the subject of loans, see *Annual Report of the Interstate Commerce Commission*, 1920, pp. 30–33; 1921, pp. 24–25; 1922, pp. 36–37; and Vanderblue, H. B. and Burgess, K. F., *Railroads*, pp. 320–321.

fortunate for them that they did, because the railroads as a whole sustained an operating loss during the first six months of private operation. The Interstate Commerce Commission in its annual report dated December 1, 1923, estimated that the government would have to pay the railroads $536,000,000 on account of the guarantee from March 1, 1920, to September 1, 1920. This was a gift to the railroads, of course, but it may fairly be reckoned as part of the costs of the war and the postwar period. The "gift" would not have been necessary had the railroads been returned by the government under conditions permitting the immediate realization of adequate earnings. Under the circumstances a guarantee during the interim period was no more than just to the railroad security owners.

Labor Disputes and Rate Adjustments

The principal developments since the passage of the Esch-Cummins Act are associated with labor disputes and rate adjustments. These topics are so closely bound together in recent railroad history that they may best be considered together. We deal first with the decision of the Railroad Labor Board on July 20, 1920, granting large increases in wages to railroad employees.

As early as January, 1919, the shopmen had presented demands for increased wages. Their demands, together with those made by other groups, aggregated approximately $800,000,000. These demands were transmitted by Director General Hines to President Wilson, who held on August 25, 1919, that wage increases should be withheld pending the determination of the permanence of the prevailing high level of living costs.[1] During the months that followed prices advanced, rather than fell; and accordingly in February, 1920, the demands were renewed. The employees were then asked, in view of the approaching termination of government operation, to await the passage of the Esch-Cummins bill, and to make use of the machinery therein provided for settling labor disputes. This bill became law on February 28, 1920; and a prompt adjustment was then in order. Nevertheless there was further delay. The members of the Labor Board were not nominated, appointed, and confirmed until April 15, a month and a half after the passage of the act. Meanwhile certain railroad employees, notably the switchmen, had initiated "unauthorized" strikes, especially in

[1] Cf. p. 471.

the larger terminals. As the switchmen occupy "key" positions, traffic became seriously congested; indeed, according to Director General Hines there resulted "probably the most acute transportation crisis that ever confronted the country." It was thus incumbent upon the Labor Board to make its decision at the earliest practicable moment; and this it did on July 20, 1920.

The Labor Board found that the railroad employees were paid a scale of wages substantially below that applying to similar work in other industries, and that the scale of wages was inadequate, in view of the high level of living costs, to enable the employees to maintain their prewar standard of living.[1] It held that justice and the maintenance of an essential industry in an efficient condition required a substantial increase to practically all classes of railroad employees. The principle followed by the Board was to establish such wages as would enable the employees to secure a decent living and to give their children an education, without creating a preferred class of laborers, and without burdening unduly the great mass of the people who would have to pay rates adequate to provide the additional wages. Acting in accordance with this general principle, and giving due consideration to the seven factors specifically enumerated in the act, the Board increased wages on the average about 22 per cent, the total addition being estimated by it at approximately $600,000,000 per annum.[2] The increased wages were made retroactive to May 1, to give the employees some reward for what the Board characterized as their "disciplined and patriotic patience." The decision applied to nearly all classes of railway labor, wherever located; and affected all told about 2,000,000 employees.

The general level of railroad rates was quite inadequate even without an increase in the wage bill, but it was made even more so by the order of the Railroad Labor Board. Accordingly the Interstate Commerce Commission, after numerous hearings extending over a period of several weeks, rendered a decision on July 29, 1920, greatly raising the level of railway charges.

By the rule of rate making of the Esch-Cummins Act, the Interstate Commerce Commission was required to establish rates under

[1] Decision no. 2. See Decisions of the United States Railroad Labor Board for 1920, pp. 13–29.

[2] Subsequently, in a statement to the Interstate Commerce Commission, the Labor Board gave the figure of $618,000,000 as the approximate annual cost to the railroads of the wage award.

which the railroads as a whole, or as a whole in each of such rate groups as the Commission might designate, would earn a fair return upon the aggregate value of the railway property used in the service of transportation. In its decision of July 29, the Commission divided the country into four rate groups—eastern, southern, western, and mountain-Pacific. These groups corresponded to the major classification territories except that western territory was divided into two groups, the dividing line between them being roughly a north and south line running along the eastern border of the Rocky Mountains. The reason for dividing western classification territory into two groups was that the roads west of the Rocky Mountains (those in the mountain-Pacific group) enjoyed higher rates than those to the east, and were in a substantially better financial condition. The next step was to ascertain the aggregate value of the railway property. In view of the fact that the valuation then under way was not finished, the Commission was not able to set a final value, but it used "for the purposes of this particular case" the figure of $18,900,000,000. The next problem was to determine the fair return. By the Esch-Cummins Act, Congress fixed the fair rate of return until March 1, 1922, at 5½ per cent, but authorized the Commission to add ½ of 1 per cent to provide for improvements and betterments. The Commission allowed the railroads this additional one-half per cent, making the fair rate of return 6 per cent. The final problem was to estimate the increases in rates that would be required to enable the railroads to earn 6 per cent upon the value of their property within the several groups. The Commission, recognizing that any order that it might make must be subject to readjustment because of the uncertainty of the outcome, granted the following increases in charges: (1) 40 per cent upon freight traffic in the eastern group, 25 per cent in the southern, 35 per cent in the western, and 25 per cent in the mountain-Pacific; (2) $33^1/_3$ per cent on inter-group traffic; (3) 20 per cent in passenger fares, excess baggage rates, and rates on milk and cream (carried in passenger trains); (4) a surcharge upon passengers in sleeping and parlor cars, equal to 50 per cent of the charge for space in such cars, the surcharge to accrue to the railroads rather than to the sleeping car company; and (5) increased charges for switching and other services, including, for example, reconsignment, lighterage, and transfer. The Commission admitted that a horizontal advance in rates on all traffic within a partic-

ular group was not the most equitable method of distributing the burden resulting from the increased charges, but it held that the necessity of prompt action precluded the employment of a fairer method. As a matter of fact, because of the vast amount of labor involved in preparing and publishing the new tariffs they did not become effective until August 26, or only five days before the government guarantee expired.

The decision of the Commission was designed to give the railroads an annual net operating income of $1,134,000,000 (6 per cent on $18,900,000,000). This was about $200,000,000 more than the standard return guaranteed to them during the period of government operation. The actual addition to railroad revenues, however, was intended to be greater than $1,134,000,000, because during the period preceding the decision of the Commission the railroads as a whole had received no net operating income at all, but on the contrary had sustained a loss of several hundred million dollars. The new rates were meant to be adequate to eliminate the loss and to provide in addition a fair return on the value of the property. The Bureau of Railway Economics estimated that the new rates, if applied to intrastate traffic as well as to interstate, would produce an increase in revenues of approximately $1,500,000,000, providing the volume of traffic remained the same.[1] That the Commission was inclined to be generous is indicated by the fact that in an unanimous decision it granted to the railroads substantially all that they had ventured to ask. The eastern roads had asked for an increase of 39.75 per cent in freight rates; they were given 40 per cent.[2] The western roads had asked for 32.03 per cent; they were given percentages of 35 and 25 (mountain-Pacific). The southern roads had asked for 38.91 per cent; they were given 25. Moreover, the railroads had been quite liberal to themselves in making their calculations as to the increases required. They had assumed that the volume of traffic would remain the same as during the twelve months ending October 31, 1919, a period of relatively light traffic; and they had assumed the continuation of the prices prevailing early in 1920, a period of abnormally high prices and thus of high costs. Though the subsequent course of events was destined to prevent the railroads from earning for several years the fair return to which they were entitled under the Esch-Cum-

[1] *Railway Age*, 69, p. 224.
[2] Ibid., p. 223.

mins Act, no one could fairly accuse the Commission of being niggardly, as was the common complaint of critics in the years preceding 1918. If anything, the Commission was too generous to the railroads.

Despite the generous intentions of the Interstate Commerce Commission the new level of rates failed to produce adequate revenues. In the first place, many of the state commissions refused to sanction increases in intrastate rates corresponding to the increases in interstate rates ordered by the Interstate Commerce Commission.[1] The action of the state commissions was by no means always due to a desire to obstruct the enforcement of the order of the Interstate Commerce Commission, but in numerous instances (especially as regards passenger fares) was due to the existence of statutory maximum fare laws, which prevented the commissions—so they believed—from sanctioning an increase. To protect themselves from this loss in revenue the railroads requested the Interstate Commerce Commission to order that the rates (and fares) on intrastate traffic be increased so as to bring them into harmony with the rates on interstate traffic. In a series of notable decisions rendered during 1920 and 1921 the Commission complied with this request.[2] Thereupon a number of the states appealed to the federal courts, alleging that the decisions of the Commission constituted a regulation of intrastate commerce not sanctioned by the Constitution. The Commission, they asserted, was without power to increase the general level of intrastate rates. The matter came on appeal to the Supreme Court, which upheld the Commission. In the Wisconsin Passenger Fares case, decided on February 27, 1922,[3] the Supreme Court said in substance: The Esch-Cummins Act imposes an affirmative duty on the Commission to fix rates and to take other steps to maintain an adequate railway service for the people of the United States. Intrastate rates and the income from them play a most important part in maintaining an adequate national system. Twenty per cent of the gross freight receipts of the railroads and 50 per cent of the passenger receipts are from intrastate traffic. If the rates, upon which such receipts are based, are

[1] A summary of the action of the state commissions is in the *Annual Report of the Interstate Commerce Commission*, 1920, p. 9.

[2] See, among others, 59 I. C. C. Reports 290–304 (New York), 350–366 (Illinois), and 391–397 (Wisconsin).

[3] 257 U. S. 563–591. See also 257 U. S. 591–602 (New York case), decided on the same day.

fixed at a substantially lower level than applies in interstate traffic, the contribution of the intrastate traffic to the receipts will be proportionately less. If the railways are to earn a fixed net percentage of income, as provided in the Esch-Cummins Act, the lower the intrastate rates are, the higher the interstate rates must be. If, therefore, the intrastate traffic fails to pay its fair share of the cost of maintaining an adequate railway system, there is a discrimination against interstate commerce—a discrimination that it is within the power of the Interstate Commerce Commission to remove. To so hold is but to maintain efficient regulation of interstate commerce under the paramount power of Congress, and does not violate the proviso against the Commission's regulating traffic wholly within a state.

A second, and more important, explanation of the failure of the increased rates to provide adequate railroad revenues was the marked decline in traffic that set in during the winter of 1920–1921. During September and October, the first two months in which the increased rates were in effect, the volume of traffic was very large; indeed more tonnage was shipped during these two months than in any other two consecutive months up to that time. Thereafter, however, shipments rapidly declined, the low point as regards tonnage and profits being reached in February of 1921. In that month the railroads carried 41 per cent less ton miles of freight than they had carried in October, 1920; and 24 per cent less than they had carried in February, 1920. In February, 1921, the railroads as a whole (class I carriers) sustained an operating loss of over $5,000,000, as compared with a net railway operating income in October, 1920, of over $86,000,000. The falling off in traffic is sometimes attributed to the advance in rates; and of course the higher rates undoubtedly did exert an influence in that direction. Nevertheless the higher rates were not the primary cause of the industrial depression of 1921. This depression was a natural and inevitable reaction from the unhealthy postwar boom, accompanied by rapidly rising prices, that prevailed in this country during the last half of 1919 and the first half of 1920. There were clear indications months before the new freight rates went into effect that the bubble was about to burst. Thus, wholesale prices reached their peak in May, 1920, and were definitely on the downgrade before the increased rates became effective. The high railroad rates undoubtedly added to the general distress, especially of

the agricultural classes, but they were not responsible for the depression and the consequent decline in traffic.

Though the increased freight rates were not the cause of the failure of the railroads to earn adequate revenues, it was agreed on all sides that the remedy was not still further increases; rates were already as high as the traffic would bear. If, then, the railroads were to earn the fair return that the Esch-Cummins Act contemplated, it was necessary to reduce the cost of operation, and especially the labor cost, which was by far the largest single item of expense.[1] The endeavor of the railroads to accomplish this result led to a number of bitter controversies with their employees.

One of these controversies was over the creation of adjustment boards. The Esch-Cummins Act provides that Railroad Boards of Labor Adjustment may be established by agreement between any railroad, any group of railroads, or the railroads as a whole, and any employees or organization of employees. The labor organizations were willing to coöperate in the establishment of these adjustment boards, but they insisted that the boards be national ones, with jurisdiction over all the employees of a particular class irrespective of the road by which they were employed. There had been three such bipartisan boards during government operation, one for the train service employees, one for the shopmen, and one for certain other groups of employees. The unions were satisfied, on the whole, with their operation, and demanded their continuance. The railroad officials, on the other hand, insisted on local adjustment boards. Some of them were willing to compromise on regional boards, or even to consent to national boards, but the majority stood firm for local tribunals. They maintained that disputes as to rules and working conditions should be handled by the railroads and employees who were to work under them, and not by a national body. National boards, the railroad officials held, would result in "the perpetuation of national standards without regard to local conditions," and by reducing the effectiveness of machinery for settling disputes where they originated would destroy esprit de corps, and lead to diminished efficiency. As regards this controversy the employees were in a strategic position because all disputes affecting rules and working conditions that

[1] During the year ending December 31, 1920, 59.9 cents out of every dollar of revenue received by class I railroads went to labor. See *Railway Age*, 71, p. 205. In 1914 the corresponding figure was 44.1 cents.

were not settled in conference between the railroads and the employees would, in the event that no adjustment boards were created, come before the national Labor Board. The result of these opposing views was that for a long time no adjustment boards were organized. In consequence the Labor Board was compelled to decide a large number of disputes that should have been settled by adjustment boards. Eventually some regional adjustment boards were agreed upon between the railroads and the train service employees, but the unions affiliated with the American Federation of Labor (the shopmen, maintenance of way men, etc.) held out for national boards. This controversy was a contributory factor in bringing on the shopmen's strike of July, 1922, which we shall describe presently.

A second, and closely associated, controversy was over the national agreements. These agreements, it will be recalled, had been entered into during the closing months of federal operation. There were five of them, applying to the following groups of employees: shopmen; maintenance of way men; clerks, freight handlers, express and station men; stationary firemen and oilers; and signalmen. The agreements established national rules and regulations governing working conditions. Their nature may be made clearer by indicating the principal topics with which they dealt. These were: the classification of each craft and of each grade of employee within that craft; the work that employees of a particular craft and grade might do, and specifically or inferentially the work that they might not do; the length of the working day; the manner of making payment, including punitive rates for overtime; the determination of seniority; the discharge of employees; the adjustment of grievances; and the training of apprentices. In general the agreements fixed the rights and obligations of the parties as to working conditions.

The railroads were vehemently opposed to the national agreements. They were opposed to them, in the first place, because they were *national*. The railroad officials pointed out that conditions were different on different roads and in the several sections of the country; and they maintained that the rules of work should not be standardized, but should reflect the varying conditions. The employees, on the other hand, preferred national agreements to local ones, because they believed that in this way their bargaining power would be increased, and more favorable rules and working

conditions obtained. From their standpoint the national agreements were a great gain. The railroads were opposed to the agreements, in the second place, because they objected to many of the rules and restrictions contained therein. For example, they objected to the limitation of the character of work that employees might perform, alleging, and with reason, that the rules frequently made it necessary to employ two or more men to do work that one man was capable of doing. They objected, also, to the abolition of piece work; and wanted to have the rules changed so that piece work could be restored, and labor cost thereby reduced. This dispute between the railroads and the employees over national agreements did not directly involve wages, and it should therefore have been threshed out before a Railroad Board of Labor Adjustment. However, since no agreement to create such a board could be reached, the dispute came to the Railroad Labor Board.

The dispute over the national agreements was referred to the Board on April 16, 1920 (the day after it was organized). As the Board was then actively engaged in hearing the application of the railroad employees for wage increases, it was decided, with the approval of the disputants, to postpone the decision as to the national agreements until the more pressing wage dispute had been disposed of. This was accomplished by the award of July 20, 1920, which we have already described. In that award the Board directed that the rules, working conditions, and agreements established by the Railroad Administration be continued in full force unless the railroads and their employees agreed upon their modification, or in the event of their inability to do so, until the Labor Board had an opportunity to decide the matter. The decision of the Board was not rendered until April 14, 1921.[1] It then announced the termination, as of July 1, 1921, of its previous order continuing the rules and agreements established by the Railroad Administration; and it called upon each railroad and its employees to designate representatives to decide meanwhile so much of the dispute relating to rules and working conditions as they could. If the conferees were unable to agree, the Board would promulgate new rules as early as possible. For the guidance of the conferees the Board laid down sixteen fundamental principles, commonly referred to as a railroad labor code. These principles recognized the right of the employees to organize; to carry on negotiations through representatives of

[1] Decision no. 119.

their own choice, irrespective of whether they were employees of a particular railroad or not; to be consulted prior to a decision of the management adversely affecting their wages or working conditions; to the eight-hour day when the work required practically continuous application; to a fair hearing in the case of discipline; to promotion by seniority; and to determine, through the action of a majority of any craft or class of employees, the organization that was to represent that craft or class. The principles also recognized the right of the railroads to maintain necessary discipline, and to be relieved from the imposition of uneconomical conditions as to the manner of performing work. The Board stipulated that the rules agreed to by the conferees should be in harmony with these principles.

The conferences between the individual railroads and their employees bore little fruit.[1] This was because the local officers of the unions, taking their cue from their national leaders, insisted upon the retention unmodified of the rules that the Labor Board had temporarily suspended. The Board was therefore compelled to resume jurisdiction of the dispute (on June 27 it issued an order continuing the national agreements until further notice), and to establish rules and working conditions that were just and reasonable. Revised rules were fixed for the shopmen in decisions rendered on August 11,[2] October 8,[3] and November 29, 1921.[4] The Board recognized the principle of the eight-hour day, of punitive pay for overtime, and of punitive pay for work performed on Sundays and holidays unless the work was absolutely essential to the continuous operation of the railroad. It removed the prohibition against piece work, and left this question to be taken up for negotiation by any railroad and its employees. In general the changes in the rules were calculated to make for more efficient operation;

[1] In this connection a bitter controversy arose between the Pennsylvania Railroad and its shopmen. The controversy dealt with the method of choosing employee negotiators. See Decision no. 218 of the Railroad Labor Board (July 26, 1921), the decision of the Supreme Court (February 19, 1923), and Decision no. 1829 of the Labor Board rebuking the Pennsylvania Railroad (June 12, 1923). See also Decision no. 1833 (June 23, 1923), involving the clerks, in which the Labor Board severely reprimanded the Pennsylvania Railroad for "flouting the will of Congress as interpreted by the established courts and tribunals of our country."

[2] Decision no. 222.

[3] Addendum no. 3 to Decision no. 222.

[4] Addendum no. 6 to Decision no. 222.

and in this regard the decision was favorable to the railroads. The decision was favorable to the employees in that the new rules, in general, applied universally to all railroads regardless of varying local conditions. The national agreements were terminated, to be sure, and thereafter there were to be individual agreements between each railroad and its employees. But this was less important in view of the fact that the decision of the Board required the new rules, with certain exceptions, to be incorporated in all the individual agreements. The decisions of the Board were thus, like most of its leading decisions, a compromise between the extreme demands of both parties.

Subsequently the controversies between the railroads and the other groups that had national agreements were disposed of by the Board.[1]

A third controversy, and one much closer related to the financial situation of the railroads, was that over wages. The controversies with regard to adjustment boards and national agreements were well under way before the depression of 1921 began, whereas the request of the railroads for wage reductions was induced by the precarious financial condition in which they were placed by the depression of 1921. Moreover, wage reductions appeared to offer much more hope of reduced operating expenses than did revised rules governing working conditions.

The railroads held conferences with their employees early in 1921, and requested them to accept a reduction in wages. The employees refused, whereupon the dispute was referred to the Labor Board. The decision of the Board was rendered on June 1, to go into effect on July 1.[2] The Board pointed out that conditions had fundamentally changed since the wage award of July 20, 1920. When that award was rendered the country was in a period of inflated prices and high costs of living. Subsequently prices fell, disastrously in some lines, and the volume of production, and thus of traffic, declined. In the summer of 1921, therefore, the country was in a period of readjustment, to which all

[1] The decision of the Labor Board in the case of the maintenance of way men was rendered on December 12, 1921 (Decision no. 501); in the case of the clerks, freight handlers, express and station employees on January 23, 1922 (Decision no. 630); in the case of the signalmen on February 13, 1922 (Decision no. 707); and in the case of the stationary firemen and oilers on February 22, 1922 (Decision no. 725).

[2] Decision no. 147.

interests might be expected to conform sooner or later. The Board applying itself more specifically to the factors that the Esch-Cummins Act required it to consider in determining just and reasonable wages, found that since July 20, 1920, there had been a reduction in the cost of living, a decrease in the scale of wages for similar kinds of work in other industries, and a large increase in the amount of unemployment. Consequently wages that were fair in the summer of 1920 were now too high. Accordingly the Board ordered reductions ranging from 6.1 per cent to 20.8 per cent, and approximating 12 per cent for all classes of employees.[1] The order of the Board thus took away about two-thirds of the increase in wages granted to the employees in July, 1920, but left the wage level 7 per cent higher than it had been upon the termination of federal control. The saving to the railroads, if applied to all class I carriers, was estimated at $400,000,000. This does not include, however, the large saving resulting from the widespread discharge of railway employees during the period of depression. Thus, the average number of railway employees during 1920 was 2,022,000, and during 1921 only 1,660,000.[2] It is clear, therefore, that the prospect of adequate net earnings for the railroads after July 1, 1921, was much improved, though it remained to be seen whether the railways could escape entirely the injurious effects of the severe depression from which the rest of the country was suffering.

Following the Labor Board's wage reduction order, which was a compromise between the demand of the railroads that all of the July, 1920, increase be eliminated and the demand of the employees that none of it be eliminated, most of the labor organizations took a poll of their members to ascertain their attitude toward a strike. Though the result of these polls, completed as to most of the train service brotherhoods early in October, was to authorize the brotherhood leaders to call a strike, it is probable that they did not intend to employ such extreme measures, but intended merely to make use of their power to ward off the further reductions in wages that they knew to be contemplated by the railroad officials. But on October 14, 1921, the railroad officials publicly announced through the Association of Railway Executives that they proposed to ask the Labor Board to reduce wages to the level prevailing prior to the wage advance of July, 1920. The railway

[1] *Railway Age*, 70, p. 1278.

[2] *Annual Report of the Interstate Commerce Commission*, 1922, p. 102.

executives agreed to pass this reduction in cost along to the public in the form of lower rates, hoping in this way to satisfy the public demand for reduced rates, and also to stimulate the flow of traffic. The brotherhood leaders had threatened to strike if the wage reduction of July, 1921, was not cancelled, but confronted now with the possibility of still further wage cuts they decided to make their threat effective. On October 15 the leaders of the four train service brotherhoods—engineers, firemen, conductors, and trainmen—and of the switchmen called a strike of their membership, aggregating about 400,000 employees. The walkout was set for October 30, for certain railroads, and was to be in force on all the railroads of the country by November 5.

The Labor Board thereupon instituted a series of conferences in the hope of having the strike order recalled. On October 20 it held a conference with the brotherhood officials, but to no effect. The next day it called a conference of both the brotherhood officials and the railway officials, to be held on October 26, only four days before the date set for the strike. Meanwhile developments came thick and fast. It had been supposed that the other railroad unions would duplicate the example of the train service brotherhoods, but one by one all of them except the telegraphers decided not to strike at that juncture. The relations between the other railroad unions, which were all members of the American Federation of Labor, and the train service brotherhoods, which had always held aloof from the Federation, had not always been cordial; and they were not able to agree as to the objectives of the strike. The leaders of the train service brotherhoods were thus confronted with almost certain defeat. A strike that had not the support of more than one-fourth to one-fifth of the railway employees could hardly be endorsed by the general public; and a strike that met with public disapproval was almost certain to be lost. The Administration took the stand that the decisions and orders of the Labor Board (a government agency) should be obeyed, and was reported to be making preparations to arrest the brotherhood leaders for conspiring to restrain commerce. At this juncture (October 25) the Labor Board adopted a memorandum to the effect that as it was highly desirable that the controversy over rules and working conditions that was then being considered by it should be settled as early as possible, the Board would not hold a hearing on any question affecting the wages

of any class of railroad employees until it had established the rules and working conditions applicable to that class. This memorandum meant that there could be no reduction in wages for some time, and it thus gave the brotherhood leaders an opportunity to recede from their extreme position. They did not do this at the conference of October 26, because at that time they were not aware of the memorandum of the Board, but upon being informed of its contents they decided, on October 27, to call off the strike. It was commonly believed at the time that the brotherhoods lost the strike; and certainly they failed to prevent the wage reduction order of July 1, 1921, from going into effect. But when the railroads subsequently presented to the Labor Board requests for further reductions in wages they did not ask for any reductions in the wages of the train service employees. There is reason, therefore, to believe that the train service employees fared better as the result of the threatened strike than was supposed at the time.

On account of the severe industrial depression, affecting the agricultural population with especial severity, there was an insistent demand throughout 1921 for rate reductions as well as wage reductions. This demand was voiced despite the fact that the railroads were earning nothing like the fair return provided in the Transportation Act. The fair return was fixed at 6 per cent; the railroads actually earned in 1921 only 3.3 per cent. Notwithstanding the inadequacy of the revenues, the railroads voluntarily or under compulsion from the Interstate Commerce Commission made a number of reductions in rates. In August, 1921, the Commission recommended to the railroads in the western and mountain-Pacific rate groups that rates on live stock in excess of 50 cents per hundred pounds be reduced 20 per cent, though not below 50 cents.[1] The railroads acted upon this recommendation. In October, 1921, the Commission ordered rate reductions ranging from 10 to 22 per cent on carload shipments of grain, grain products, and hay, in these same rate groups.[2] In its annual report dated December 1, 1921, the Commission stated that at least a million changes in individual rates had been filed with it since August 26, 1920, most of which represented decreases. The criticism of high railroad rates continued, and in January, 1922, the railroads of their own accord reduced by 10 per cent the car-

[1] 63 I. C. C. Reports 107–121 (August 3, 1921).
[2] 64 I. C. C. Reports 85–106 (October 20, 1921).

load rates upon practically all products of the farm, garden, orchard, and ranch other than live stock, grain, grain products, and hay. Yet even this reduction, designed to soften the opposition of the most powerful political group in the country, did not suffice. Accordingly the Interstate Commerce Commission, which could hardly fail to be influenced by the general sentiment that rates must be adjusted to economic conditions, in a decision rendered on May 16, 1922, required a horizontal reduction of rates of approximately 10 per cent on substantially all commodities.[1]

The Commission's decision fixed, first of all, the fair rate of return on and after March 1, 1922, the Congressional mandate as to the fair rate of return having expired on that date. The Commission decided that 5¾ per cent was to be regarded as a fair return. It pointed out that 5¾ per cent net after the deduction of federal income taxes was approximately equal to a return of 6 per cent from which the federal income tax was yet to be deducted. The problem was to ascertain the level of rates that would enable the railroads to realize 5¾ per cent net income on the aggregate value of their property. The Commission admitted that the rates fixed by it in July, 1920, had not yielded the railroads a fair return on their property, but this was because of the operation of uncontrollable economic forces. The prospect was, however, that this same level of rates, if continued, would yield the railroads more than the fair rate of return fixed by it. The Commission, looking into the future, foresaw an increase in the volume of traffic due to improved business conditions, and it also foresaw a decline in railroad expenses due to lower labor costs and lower prices for fuel and other supplies. Moreover, a substantial reduction in rates would lessen the transportation burden and stabilize the conditions under which industry was carried on, thus improving the railroads' prospect of realizing a fair return. The Commission therefore found that freight rates, including switching charges, would be unreasonable if they exceeded the rates in effect prior to August 26 (the date when the rates had been increased) by more than the following percentages: 26 per cent in the eastern rate group; 12.5 per cent in the southern; 21.5 per cent in the western; 12.5 per cent in the mountain-Pacific; and 20 per cent on inter-group traffic. This was practically a reduction of 10 per

[1] 68 I. C. C. Reports 676–747.

cent in every instance, except that it was not to be 10 per cent in addition to general reductions already made, as in the case of agricultural products. No reduction was made in passenger fares, baggage charges, sleeping car surcharges, and milk and cream not carried on freight trains. The reduction was to be effective not later than July 1, 1922. Technically the Commission's decision was not an order; the way was apparently left open for the railroads to propose voluntary reductions on basic commodities as a substitute for a horizontal reduction. But the reduction went into effect as suggested by the Commission, and unlike the previous decision of July 29, 1920, without awaiting the decision of the Labor Board in the pending wage reduction cases.

The wage reduction decisions of the Labor Board soon followed. The rules and working conditions applicable to the several classes of employees having been established during the winter of 1921–1922, as explained earlier, the Labor Board was requested by the railroads to reduce still further the wages of practically all classes of employees except the train service brotherhoods. The request was founded upon the lower level of prices and living costs. The leading cases were decided late in May and early in June, 1922. On May 25 the Labor Board reduced the wages of maintenance of way employees by sums varying from one to five cents per hour, as a result of which the hourly wage rate was in some cases as low as twenty-three cents.[1] On June 5 it reduced the wages of shopmen by five to nine cents per hour.[2] And on June 10 it reduced the wages of clerks, station employees, stationary firemen and oilers, and signalmen by varying sums.[3] In general the wage scale prior to the wage increase of July 20, 1920, was restored. In every case the wage reduction was to go into effect on July 1, 1922, and in every instance the labor representatives of the Board filed a dissenting opinion, bitterly assailing the majority award. The dissenting opinion in the clerks' case practically recommended a strike; and the advisability of this extreme step was considered by all the unions affected. The only ones that did strike, however, were the shopmen and the stationary firemen and oilers (the latter being a relatively unimportant organization).

The principal grievances of the shopmen were three: (1) the

[1] Decision no. 1028.
[2] Decision no. 1036.
[3] Decision no. 1074.

practice of certain railroads in having their shop work done under contract by outside concerns, thus denying to the shopmen the protection of the rules and working conditions established by the Labor Board; (2) certain of the rules established by the Labor Board in its decisions of August 11, October 8, and November 29, 1921; and (3) the wage cut of June 5, 1922. A fourth major grievance was the inability of the shopmen to secure the creation of a *national* adjustment board, but this was not on the strike ballot sent to the shopmen, and it can not therefore be properly regarded as one of the issues in the strike. The shopmen having authorized their leaders to call a strike unless their three principal grievances were adjusted, a strike was decided upon on June 27, to go into effect on all the railroads of the country on July 1, the day on which the wage cut was to become effective. In a last moment endeavor to prevent the strike the Labor Board called a meeting of the disputants for June 30. At this meeting the first grievance was rather effectively removed as a major issue. The Labor Board had already, in a momentous decision rendered on May 9, held that the practice of contracting out railroad repair work was in violation of the Transportation Act, in so far as it was designed to remove the shopmen from the application of the act and from the protection of the rules and working conditions fixed by the Labor Board under that act.[1] And at the meeting of June 30 the few railroads that had resorted to contracting out agreed, with only two exceptions, to abandon the practice. Their assurances had no effect at the time, because the leader of the shopmen refused to attend the meeting called by the Board, but the issue was thus practically confined to the orders of the Labor Board fixing rules and wages. Against these orders the shopmen went out on strike on July 1, as scheduled.

The Labor Board had announced in October, 1921, upon the calling off of the strike of the train service brotherhoods, that when action of the employees resulted in a strike the organization so acting was to be regarded as having forfeited its rights and the rights of its members to the benefits of all agreements, and the employees so striking were to be regarded as having voluntarily removed themselves from the classes entitled to appeal to the Board for relief and protection.[2] In accordance with the policy

[1] Decision no. 982.
[2] Decision no. 299.

thus announced the Labor Board, on July 3, passed a resolution reading in part, as follows: "if it be assumed that the employees who leave the service of the carrier because of their dissatisfaction with any decisions of the Labor Board are within their rights in so doing, it must likewise be conceded that the men who remain in the service and those who enter it anew are within their rights in accepting such employment, that they are not strikebreakers seeking to impose the arbitrary will of an employer on employees; . . . and that they are entitled to the protection of every department and branch of the Government, State and National." Supported by this resolution most of the railroads announced that strikers who did not return by a specified date would be taken off the payrolls, and that their places would be filled (so far as possible) by new men. Notwithstanding the fact that this would involve the sacrifice by the strikers of their seniority privileges, which assure the best positions to the men longest in service, most of them remained out, expecting, no doubt, that they would be able to compel the railroads to back down on this vital point. The railroads, therefore, to the best of their ability built up around their loyal employees as a nucleus a new staff of shopmen, in most cases definitely placing the new men ahead of all those later to be employed, whether former employees or not. Some of the railroads were successful in this regard; and some were not. The equipment naturally deteriorated; but the trains continued to run, the train service brotherhoods not being involved.

After the strike had been in progress for a month, with serious interruption to railway service, President Harding took a hand. On July 31 he suggested to the disputants a basis of settlement, which involved the return of all employees then on strike to their former positions with seniority and other rights unimpaired. This settlement the railway officials declined. They pointed out that it was their duty to employ new shopmen, in order that they might supply the public with uninterrupted transportation; and that they had been able to secure new men only by promising them, as was warranted by the utterances of the Labor Board, that they would be protected in their positions no matter what the outcome of the strike. Therefore they could not accept the President's proposal without committing a gross breach of faith. The employees voted to accept the President's proposal, as they were quite willing to return to their positions if they could preserve intact

their seniority privileges. A week later the President made a second proposal. He proposed that the striking employees return to work; that the railroads assign them to work; and that the question of seniority—the sole bar to a settlement—be decided by the Labor Board. The second proposal the shopmen unanimously declined, believing, no doubt, that the attitude of the Labor Board was unfavorable to their contention. The railway officials accepted it, though with certain reservations. Officials representing 151,000 miles accepted it in the understanding that such acceptance involved no surrender of their principles with respect to seniority; and officials representing 57,000 miles accepted it subject to the understanding that strikers be assigned to their former positions "where vacancies exist." An agreement being impossible, the strike continued.

The course of the strike was marked by violence and lawlessness. In an address to Congress on August 18 President Harding stated that assaults had been committed upon non-strikers, applicants for jobs, guards attempting to protect lives and property, and even officers of the federal government engaged in the performance of their duties. In some cases murder was actually committed. According to the chairman of the Labor Board the strike was like civil warfare. New workers were besieged within their stockades; the blockade of shipments of all sorts of commodities was attempted; and bombs were thrown for the destruction of men and property.[1] Conditions became so bad that the government applied for and secured on September 1 a sweeping injunction forbidding the striking shopmen to hinder the railway companies in the operation of their systems, and forbidding also interference with any employees of the railroads engaged in the repair and operation of trains and equipment. The injunction recited in considerable detail the acts that were specifically forbidden to the shopmen. The injunction was so far-reaching that it was the subject of much criticism, even from some of the railroad officials, and a prolonged controversy was waged over it.

Whether or no because of the injunction a partial settlement of the strike was effected on September 13. An agreement was made between the shopmen and railways having about 55,000 miles of line (equal to less than one-fourth of the total mileage). The agreement provided that all men should return to work in

[1] Hooper, B. W., *North American Review*, 217, pp. 296-297.

positions of the class they originally held on June 30 (the day before the strike). As many of the men as possible were to be put at work immediately at existing rates of pay (those fixed by the wage reduction order of the Labor Board of June 5,) and the remainder (except those proven guilty of acts of violence) not later than thirty days after the signing of the agreement. Disputes as to the relative standing of employees were to be referred to a commission composed of six representatives of the shopmen and six representatives of the railroads that were parties to the agreement. This meant that the controversy over seniority was not settled as to these roads in the calling off of the strike, but was to be referred to a bipartisan commission. The roads that entered into this agreement were as a rule those which had not been successful in recruiting new forces, and were therefore less embarrassed by the seniority issue. Subsequently most of the other railroads made a settlement along the same lines. Others, however, built up their shop forces so that they were independent of the strikers. As to these latter the strike was still in effect as late as December, 1923; but for all practical purposes the strike was ended.

The outcome of the strike was plainly a defeat for the shopmen. They won nothing, and they lost a great deal. They went back to work at the same wages and under the same rules as those against which they had struck. All of them lost their wages while they were on strike, a number of them lost their jobs permanently, and a number lost their seniority privileges.[1] In going back they did not succeed in effecting a national settlement, for which they had stood out for weeks. Moreover, their unions were seriously weakened, because many railroads refused to deal with the former unions, but dealt instead with new so-called company unions. To quote from the majority opinion of the Labor Board (October 21, 1922), "the shopmen's strike was an egregious blunder without any real justification. . . . It has wrought harm to all and good to none. It has burdened the railways with an unjust expense, has inflicted great losses upon the public, especially the food producers, and has resulted in approximately $177,535,524 loss to the strikers. For all this, the men on strike have won nothing. They have gained no concession as to any matter upon which

[1] That more of them did not lose their seniority privileges is due to the fact that the great majority of the new employees, who took the places of the strikers, subsequently left the employ of the railroads.

they struck. For months the strike has been merely a struggle upon the part of the men to regain their positions. . .

"Perhaps, there is no better time and place to emphasize the belief of a majority of the Labor Board that railway strikes are utterly useless and wasteful, and that the employees will always gain better results at the hands of any tribunals fairly constituted and representative of the people than they will by making war on the carriers and the public."[1]

A few words may be said with regard to the controversy between the maintenance of way men and the railroads. The Labor Board reduced the wages of the maintenance of way men about the same time that it reduced the wages of the shopmen. The maintenance of way men seriously considered striking in conjunction with the shopmen, but early in July decided not to. Instead they appealed to the Labor Board for a reconsideration. The Board, in a decision rendered on October 21, 1922, found that wages, particularly of unskilled labor, had increased materially since its earlier decision; and accordingly it raised the wages of most maintenance of way men by two cents an hour.[2] In connection with this proceeding the employees put forth a request for a "living wage," defining this term to mean "a wage which will support a family of five in health and reasonable comfort, such family being assumed to consist of a husband and wife and three dependent children under sixteen years of age." The Labor Board characterized this proposition as "a bit of mellifluous phraseology, well calculated to deceive the unthinking." The Board conceded that employees were entitled to "a living wage;" in fact, it maintained, they had been granted "a living wage." But "the living wage" advocated by the employees was quite another matter. Even the expert representative of the employees in this proceeding admitted that the immediate establishment of "the living wage" advocated by them would "throw a monkey wrench into the industrial machinery." He therefore suggested that the Board merely make a start in that direction in this proceeding. The Board characterized this proposition as entirely illogical. "If the living wage is the just and reasonable wage authorized by the statute, it is the duty of the Labor Board to establish it now. If it is not the just and reasonable wage commanded by the

[1] Decision no. 1267.
[2] Decision no. 1267. See also Decision no. 1450 (December 11, 1922).

law, then it is not the duty of the Board to adopt it now or hereafter, unless the law be changed." Apart from the legal aspects of the matter this appears to be the sound view. The employees are entitled to a just and reasonable wage. They demand a living wage. Is a living wage more than a just and reasonable wage? Apparently they so regard it, but this amounts to an assertion that they should receive more than is just and reasonable. Is a living wage the same as a just and reasonable wage? If so, when they get a just wage, they also get a living wage. Is a living wage less than a reasonable wage? Clearly not, in their opinion, else they would not argue for it. However, despite the unsoundness of the employees' position, we think that the Labor Board was needlessly brusque in disposing of the living wage issue. The employees had set their hearts on the attainment of what they called a living wage; and the Labor Board was lacking in tact in dealing so ruthlessly with their cherished aspirations, especially in view of the fact that the Board in this proceeding sanctioned a minimum wage for maintenance of way men of only twenty-five cents per hour.

During the fall and winter of 1922 practically all of the railways made agreements with their train service employees for another year. These agreements continued in effect the existing wage scale. It was this wage scale that the railroad officials had planned to reduce in October, 1921, leading to the threatened strike. The calling off of the strike was due to the promise of delay in the consideration of wage reductions. Subsequently there came the wage reductions of shopmen, maintenance of way men, clerks, etc., and the expensive shopmen's strike. These considerations, combined with the fact that the train service employees are indispensable to the movement of traffic, induced the railway officials to continue the prevailing wage rates. These agreements were made almost entirely as the result of negotiations between the individual railways and their employees (or their union representatives). This is a movement of great significance. Decentralization of negotiations affecting wages and working rules will conduce toward the greater recognition of varying local conditions, will diminish the responsibility of the Railroad Labor Board, and will lessen the danger of a national tie-up. According to Mr. Lee, the president of the Brotherhood of Railroad Trainmen, in a statement made in October, 1922, the "Big Four" no longer exists.

Hereafter, he said, the trainmen and conductors will go it alone. Presumably, though Mr. Lee did not say so, the locomotive engineers will continue to work with the firemen and switchmen; indeed recent developments indicate that the engineers' brotherhood and the firemen's brotherhood may amalgamate to form one organization. Yet even if they do, the dissolution of the alliance between the four train service brotherhoods will come as a great relief to the railway officials, not to mention the general public.

It may be readily inferred from the foregoing account of our experience with the Railroad Labor Board that this agency has failed to function as satisfactorily as had been anticipated at the time of its creation in 1920. The Board is highly partisan in character, being composed of representatives of the railroads, the employees, and the public in equal proportions. At the time of the creation of the Board this was regarded as an advantage, because representatives of the railroads and employees were thereby given an opportunity to register their views, with the balance of power in the hands of the representatives of the public. Experience, however, has shown that a board so constituted lacks that disinterested spirit which has made the Interstate Commerce Commission so successful. President Harding, in his address to Congress of December 8, 1922, gave voice to the prevailing opinion when he said that the Labor Board was "not so constituted as best to serve the public interest." With six partisan members out of a total membership of nine it was inevitable that the partisan viewpoint be maintained throughout the hearings and expressed in the decisions. Indeed, the few exceptions to a strictly partisan expression in decisions have been followed, he said, by accusations of a betrayal of the particular interests represented. The President therefore recommended that the partisan membership be abolished, and that there be substituted for the Board an impartial tribunal, preferably a labor division in the Interstate Commerce Commission, made up from its own membership. Nothing came of this recommendation; on the contrary, as time passed the partisan character of the Board became more pronounced. By the summer of 1923 the representatives of the employees had reached the stage of attacking, in dissenting opinions, even the personalities of the representatives of the public; and the latter were retaliating in kind.[1] These con-

[1] See, for example, Decision no. 1933 (July 21, 1923), and Decision no. 1983 (October 9, 1923).

stant bickerings could not fail to lessen public confidence in the Board. The employees, in particular, felt that the Board was not fair to them. From the very start organized labor had been opposed to the Esch-Cummins Act, and their experience under it but served to confirm them in this opposition. Accordingly in the fall campaign of 1922 they entered the political arena with the professed object of securing representatives in Congress who would effect the repeal of the Act. In this campaign they achieved a considerable measure of success, a number of the supporters of the Esch-Cummins Act being defeated, and a number of out and out friends of labor being elected to the Senate and House. With the convening of Congress in December, 1923, this group moved upon Washington, and prepared to stage a battle royal for the repeal of the obnoxious provisions of the Esch-Cummins Act, and in particular for the abolition of the Labor Board.

The opposition of labor is not confined to the Railroad Labor Board and the Esch-Cummins Act, but is extended also to the railroads. The innumerable controversies between the railroads and their employees since the restoration of private operation early in 1920 have made the employees intensely critical of the railroads and all their activities. In this attitude of opposition the employees have had the support of the farmers, who have borne more than their share of the burdens of deflation and depression. To these groups the rule of rate making, which is incorrectly designated as a guarantee, is like a red rag to a bull. Despite the fact that the railroads have failed by a considerable margin to earn the fair return that the rule of rate making contemplates—they earned only 3.3 per cent on the value of their property in 1921, 4.1 per cent in 1922, and 5.1 per cent in 1923—they have been violently accused of pursuing an extortionate rate policy. Not only that, but the attitude of labor toward all their works is one of open hostility. Without venturing to apportion the blame—undoubtedly both sides are to blame—it may yet be said that this intensely critical attitude is greatly to be deplored, for without close and harmonious coöperation between the railroads and their employees there can be no assurance that the public will enjoy an adequate and economical transportation service.

Service

In order to exercise the increased powers over car service granted by the Esch-Cummins Act, the Interstate Commerce Commission organized, shortly after the termination of government operation, a Bureau of Service. This bureau had hardly been organized before a situation arose requiring the exercise by the Commission of its emergency powers over service. In the spring of 1920 the volume of traffic was very heavy, and the supply of cars quite inadequate. The threatening situation was immensely aggravated by the "unauthorized" switchmen's strike that began in April and that lasted into the summer. This strike greatly increased the congestion at many of the leading gateways, and made necessary the imposition of numerous embargoes. The Commission declared that the strike had the effect of reducing by fully one-third the equipment available for the carriage of freight. A complete disruption of transportation was threatened, and accordingly the railroads on May 15 requested the Commission to make use of its emergency powers. The Commission agreed that an emergency existed, and on May 20 and subsequent dates issued a number of service orders designed to clear up the congestion.[1] The Commission ordered the railroads to forward traffic to destination by the most available route without regard to the directions of the shipper, or the ownership of the cars. It effected a relocation of equipment, various western railroads being required to deliver open top coal cars to their eastern connections, and various eastern railroads to deliver box cars to their western connections. It gave directions for priority in the transportation of coal, especially on coal destined to New England and to the Northwest (via Lake ports). In this connection the Commission resurrected the arrangements for the pooling of coal that had been employed during the war. The Commission also organized terminal committees at the leading railroad and traffic centers, to assist in keeping the main gateways open; and coöperated, of course, with the car service division of the American Railroad Association, through which division the railroads accepted their orders from the Commission and its Bureau of Service.

The emergency measures of the Commission effected a marked improvement in the situation. Whereas the daily average accum-

[1] See *Annual Report of the Interstate Commerce Commission*, 1920, pp. 11–23.

ulation of loaded freight cars in excess of current movement was more than 287,000 immediately after the outbreak of the strike, by July the daily average had declined to approximately 100,000. By October 22 the average was less than 40,000, which is a normal figure. Subsequently traffic greatly declined, and throughout 1921 the railroads had no difficulty in moving the freight; indeed their financial condition became highly precarious because of the marked scarcity of tonnage.

In 1922 the Commission was again obliged to resort to its emergency powers. On April 1 the union miners in both the bituminous and the anthracite coal fields went on strike; and on July 1 the railroad shopmen did the same. The combination of these two strikes, involving approximately one million men, threw a tremendous burden upon the railroads, and especially upon those that served the nonunion coal fields. As both of the strikes bade fair to be long drawn out, the Commission on July 25 and following entered service orders to relieve the congestion.[1] These orders were similar to those given in 1920, except that in 1922 the Commission gave preference to the transportation of a large number of commodities, including coal, coke, fuel oil, food for human consumption, live stock, feed for live stock, and perishable products. The power to order priority in the transportation of any particular commodity is a tremendous power that should be exercised only in serious emergencies; and the Commission in 1920 had given priority only to coal, which is indispensable to individual well-being and the continuance of industry. In 1922, however, the situation was so serious that the Commission broadened the list of preferred commodities. Developments since the passage of the Transportation Act thus show the necessity for the exercise of the unifying powers of the Commission, but they also raise the question whether our transportation facilities are going to be adequate to meet the steadily increasing demands for transportation service.

Securities

The provisions of the Esch-Cummins Act empowering the Interstate Commerce Commission to regulate the issuance of securities went into effect late in June, 1920. Since that date nearly every railroad in the country has made application to the Commis-

[1] See *Annual Report of the Interstate Commerce Commission*, 1922, pp. 9-16.

sion for authority to issue securities; and the Commission has authorized their issuance in an amount aggregating billions of dollars.[1] The exercise by the Commission of its powers has prevented the recurrence of those scandals that characterized earlier operations, and may therefore be expected in course of time to improve greatly the market for railroad securities.

Because of the large number of cases decided by the Commission, and the consequent impossibility of a complete treatment, we shall describe only one leading case,—the refunding operations of the Northern Pacific and Great Northern in 1921.

In 1901 the Northern Pacific and Great Northern jointly acquired control of the Chicago, Burlington and Quincy by the purchase of approximately 97 per cent of its stock, giving in payment joint collateral trust four per cent bonds, and pledging the stock of the Chicago, Burlington and Quincy as collateral security. These bonds, aggregating $215,227,000, were to mature on July 1, 1921. The question was: how were they to be refunded? The Northern Pacific and Great Northern proposed to make use of the credit of the Chicago, Burlington and Quincy, which was an unusually prosperous road, and which had a very large surplus representing the reinvestment of profits in the property. Specifically, the proposal was that the Chicago, Burlington and Quincy should issue $60,000,000 of additional stock, which should be distributed as a stock dividend to the shareholders (the Northern Pacific and Great Northern principally); and that it should issue $109,000,000 of six per cent bonds, of which amount $80,000,000 should be distributed as a bond dividend to the shareholders (either in the form of bonds or cash). The receipt by the Northern Pacific and the Great Northern of the bond dividend would enable them to pay off at maturity more than one-third of their joint fours, and there would be left only about $135,000,000 to be refunded. This they proposed to take care of by the issuance of their own bonds (individual or joint), and at relatively moderate rates of interest because of the reduction of the principal by more than one-third. The matter came before the Commission on the application of the Chicago, Burlington and Quincy, and a decision was rendered on February 28, 1921.[2]

[1] See *Annual Report of the Interstate Commerce Commission*, 1921, p. 20; 1922, pp. 31–32.

[2] 67 I. C. C. Reports 156–183.

The Commission gave permission to issue the stock dividend.[1] It pointed out that the surplus of the Chicago, Burlington and Quincy had been built up through the investment in the property of earnings that might properly have been paid to the stockholders in the form of dividends, and that "no one questions the right of owners to compensation for sacrifices made in foregoing dividends." These reinvested earnings were enormous—over $189,000,000 in twenty years—but there was no proof that the total return upon the fair value of the company's property was unreasonable nor that the earnings were the result of excessive rates. The Commission found that even after the stock dividend the capitalization of the Burlington would be below both the actual investment and the probable fair value of the property devoted to the public service; and that the remaining uncapitalized surplus would be "adequate to meet the applicant's emergency needs, support its borrowing power, afford insurance against obsolescence, minimize short-term financing, and serve as a general financial balance wheel." The Commission denied permission, however, to issue the bond dividend. It pointed out that the Burlington had no need for the bonds; that their issuance would materially increase its interest burden; that it could advantageously issue all the stock reasonably required for its needs; and that the division of that part of its surplus not required for ordinary surplus purposes might more appropiately be made by stock than by bonds.

The denial of the application to issue a bond dividend made necessary the preparation of a new plan for refunding the joint bonds of the Northern Pacific and the Great Northern. The amended plan was briefly that these two roads should issue $230,000,000 of fifteen year 6½ per cent joint convertible bonds secured by the pledge of the stock of the Burlington (increased by $60,000,000 as just explained), and secured also by $33,000,000 six per cent bonds of the Northern Pacific and $33,000,000 seven per cent bonds of the Great Northern. The new 6½ per cent bonds were to be convertible into bonds of either the Northern Pacific or the Great Northern. The $230,000,000 issue was to be sold to the public for cash at a slight discount, and the proceeds were to be

[1] In similar proceedings the Commission authorized a stock dividend by the Delaware, Lackawanna and Western in April, 1921 (67 I. C. C. Reports 426–442) and by the Louisville and Nashville in February, 1923 (76 I. C. C. Reports 718–731).

employed to pay off the joint fours at maturity (July 1, 1921). To this amended plan the Commission gave its approval on April 21, 1921.[1] The resulting issue of bonds, which was successfully sold, represented the largest piece of corporate financing in the history of railroad transportation.

Intercorporate Relations

Consolidation

The provisions of the Esch-Cummins Act providing for the voluntary consolidation of the railroads into a limited number of systems, in accordance with a plan adopted by the Interstate Commerce Commission, were designed to supplement the statutory rule of rate making. The object of this rule was to assure the railroads adequate rates so that the public might be assured of adequate and efficient service. Yet the existence side by side of strong and weak roads raised a serious practical problem: to wit, how establish rates that would be adequate for the weak roads without at the same time being excessive for the strong. The framers of the Esch Act endeavored to solve this problem by the recapture clause and by the consolidation provisions. The former captured for the government one-half of the excessive earnings realized by the strong roads; the latter aimed to eliminate the weak roads by consolidating them with the strong. The thought of the legislators was that in course of time there would be created in each territorial group a few large consolidated systems able to earn approximately the same percentage upon the value of their property, and that there would thus disappear the most serious practical difficulty in the administration of the rule of rate making.

For the purpose of preparing a plan of consolidation the Interstate Commerce Commission instituted an investigation in May, 1920. It engaged Professor W. Z. Ripley of Harvard University, an acknowledged authority in the field of railway transportation, to make a preliminary study of the problem. Using his proposals as a basis, the Commission on August 3, 1921, agreed to a tentative plan.[2] It suggested the consolidation of the railways of the country into nineteen systems, as follows:[3]

[1] 67 I. C. C. Reports 458–471.
[2] 63 I. C. C. Reports 455–660.
[3] 63 I. C. C. Reports 456–463.

Official Classification Territory.

I. Trunk lines.

1. New York Central.
2. Pennsylvania.
3. Baltimore and Ohio.
4. Erie.
5. Nickel Plate—Lehigh Valley.

II. Regional lines.

6. Pere Marquette (lower Michigan peninsula).
7. New England.

III. Chesapeake Bay to Great Lakes lines.

8. Chesapeake and Ohio.
9. Norfolk and Western.

Southern Classification Territory.

10. Southern.
11. Atlantic Coast Line—Louisville and Nashville.
12. Illinois Central—Seaboard Air Line.

Western Classification Territory.

I. Transcontinental lines.

13. Union Pacific—Chicago and Northwestern.
14. Chicago, Burlington and Quincy—Northern Pacific.
15. Chicago, Milwaukee and St. Paul—Great Northern.
16. Atchison, Topeka and Santa Fe.
17. Southern Pacific—Chicago, Rock Island and Pacific.

II. Southwestern Gulf lines.

18. St. Louis-San Francisco—Missouri, Kansas and Texas—St. Louis Southwestern.
19. Chicago and Eastern Illinois—Missouri Pacific.

Under the Commission's plan, which placed all the leading railways in one or the other of these nineteen systems, there were to be five trunk lines from New York City to Chicago; one regional monopoly for New England [1] (though the Commission also authorized as an alternative the subdivision of the New England

[1] This is in consonance with English practice. An act of 1921 *required* the consolidation of the railways of Great Britain into four regional systems by July 1, 1923, unless a postponement was authorized by the "amalgamation tribunal" created under the act.

lines among certain of the trunk lines); two soft coal lines from Chesapeake Bay to the Great Lakes; three lines in the Southeast; two lines in the Southwest; and five transcontinental lines from Chicago to the Pacific Coast. The plan thus recognized, in the main, the three major classification territories, and it also avoided, when possible, the dismemberment of existing lines or systems.

The plan was admittedly tentative; it was put forward "in order to elicit a full record upon which the plan to be ultimately adopted can rest." The next step, after allowing time for public consideration of the proposal, was to hold hearings. The first of these was held in the South in April, 1922; and subsequently others were held in other portions of the country. However, as yet (December, 1923) practically nothing definite has been accomplished.[1]

It thus remains to be seen whether the intent of the Esch-Cummins Act will be realized; for the Interstate Commerce Commission has no authority to enforce consolidation upon an unwilling railroad. There are several reasons for thinking that a comprehensive plan of consolidation for the entire country will not be adopted. (1) The owners of the strong roads (those that are well-located, in good physical condition, and of assured earning power) will be reluctant to join forces with the owners of the weak roads unless they are to receive a relatively large proportion of the securities of the consolidated company. (2) The owners of the weak roads, relying upon the intent of the act to bring about consolidation, will possibly insist upon more favorable consideration than the owners of the strong roads will be willing to give. (3) Many communities whose needs are now served by a local railroad will oppose the consolidation of this road with a larger system which may have a lesser interest in that locality, and the citizens of these communities may be able to induce the local road to stay out of the consolidation. (4) The officers of the railroads, who naturally conduct the negotiations, may oppose consolidation from a desire to maintain the independence of their road and from a fear lest they will be forced to accept an inferior position in the consolidated company. If several hundred railroads consolidate to form nineteen there will be fewer presidents; and many individuals would rather be the president of a small railroad than vice president of a big

[1] On a minor consolidation—the Nickel Plate—see 79 I. C. C. Reports 581–595 (June 18, 1923).

one. Did the Commission have authority to enforce consolidation the case would be otherwise, but it is doubtful under the Constitution whether one road can be forced to consolidate with another. The recapture clause, to be sure, provides a stimulus to consolidation, yet the constitutionality of this clause has not yet been determined.[1] Even should its constitutionality be sustained, however, it is doubtful whether it will bring about a comprehensive plan of consolidation; for it has no application to a railroad that earns the fair rate of return and no more. The success of the consolidation program is thus in doubt.

Lease or Stock Ownership

The Esch-Cummins Act also authorized the acquisition by one railroad of control over another, either by lease, stock ownership or any arrangement not involving consolidation, if the Interstate Commerce Commission approved the combination as in the public interest. In the exercise of this power the Commission has approved a number of acquisitions. It authorized the New York Central Railroad to acquire the Cleveland, Cincinnati, Chicago and St. Louis (by purchase of stock), the Toledo and Ohio Central (by lease), and the Kanawha and Michigan (by lease). It authorized the Pennsylvania Railroad to lease the Pittsburgh, Cincinnati, Chicago and St. Louis, and a number of other roads. The most outstanding instance, however, is the approval of the control of the Central Pacific by the Southern Pacific. As pointed out earlier, the Supreme Court in May, 1922, found the Southern Pacific-Central Pacific combination illegal under the Sherman Act, and ordered the Southern Pacific to part with the Central Pacific. Subsequent to this decision the Southern Pacific requested the Interstate Commerce Commission for permission to retain control of the Central Pacific through lease and stock ownership pending the completion by the Commission of its consolidation plan. The officers of the Southern Pacific pointed out that the Commission's tentative plan of consolidation provided for the merger of the Southern Pacific and the Central Pacific, and they argued that if these roads were soon to be allowed to consolidate it would be folly to rend them asunder

[1] Since the above was written, the constitutionality of the recapture clause has been upheld. See decision of the Supreme Court in the Dayton-Goose Creek Railway case, decided on January 7, 1924.

meanwhile. They claimed that it was in the public interest to continue the former arrangement, temporarily at least, because the Central Pacific was an integral part of the Southern Pacific, and could not be separated from it without injurious effect upon the service.[1] The Commission, in a decision rendered on February 6, 1923, gave the desired permission.[2] It attached to its certificate of permission certain conditions designed to protect the interests of the public and of the Union Pacific; and it reserved the right to withdraw its permission if subsequently it found that the control of the Central Pacific by the Southern Pacific interfered with the consummation of its complete plan of consolidation. The power of the Commission to make its order was unanimously upheld by a United States Circuit Court of Appeals in the following June; and from this decision an appeal to the Supreme Court was not taken. The Southern Pacific thus continues to hold the Central Pacific. The outcome of this proceeding clearly indicates a remarkable change in public opinion with respect to the desirability of combination in the field of railway transportation.

REFERENCES

Chamber of Commerce of the United States: *Report of Special Committee on Railroad Consolidation*, November 6, 1923.

Cunningham, W. J.: *American Railroads*, chs. 22–24 (1922).

——: "The Railroad Consolidation Plan," *Harvard Business Review*, vol. 1, pp. 50–63 (October, 1922).

Daggett, Stuart: "The Railroad Labor Controversy of 1921," *University of California Chronicle*, vol. 24, pp. 43–64 (January, 1922).

Dixon, F. H.: *Railroads and Government*, ch. 22 (1922).

Gadsby, Margaret: "Strike of the Railroad Shopmen," *Monthly Labor Review*, vol. 15, pp. 1171–1191 (December, 1922).

Hooper, B. W.: "Strikes," *Saturday Evening Post*, vol. 195, pp. 6–7, 104, 106 (October 14, 1922).

——: "The Fantasy of the Living Wage," *Nation's Business*, vol. 11, pp. 16–18 (June, 1923).

Vanderblue, H. B. and Burgess, K. F.: *Railroads*, ch. 25 (1923).

[1] See *Railway Age*, 73, pp. 987–990 (November 25, 1922). Note the maps on p. 988.

[2] 76 I. C. C. Reports 508–531.

INDEX

Abandonment of railroad lines, 360, 375, 558.
Accident Reports Act, 379, 384.
Accidents, 376–381, 384, 386–388, 500–501.
Accounts, 72–73, 221, 239–240.
Act of 1866, 210.
Act of 1873, 210–211.
Act to Regulate Commerce of 1887, 66–67, 96–97, 99–100, 113, 119–120, 141, 156, 164, 175, 202, 210–231, 239, 245.
Acworth, W. M., 90, 409, 509, 533, 535, 544.
Adams, A. D., 209.
Adams, C. F., Jr., 50, 68, 209.
Adamson Act, 430–431, 517.
Adequacy of service, 68, 375, 388–400, 411, 500, 558, 590.
Africa, 528.
Aid to railroads, 51–52, 56–57, 59–61, 188.
Air brakes, 61, 66, 77, 379, 381–382, 405, 510.
Aishton, R. H., 452.
Alabama Midland case, 158, 164, 228–231, 249, 255.
Alaska, 530.
Alaska Railroad, 68, 530.
Albany and West Stockbridge Railroad, 53.
Allison, J. E., 307.
Amalgamated Copper Company, 141.
American Federation of Labor, 412–413, 577.
American Railway Association, 380, 387–388, 407, 435, 589.
American Railway Union, 415, 417.
American Smelting and Refining Company, 141.
Anthracite coal combination, 338, 350.
Arbitration Act of 1888, 416, 418.
Archbald, Robert W., 259.
Argentina, 529, 531.
Army Appropriation Act, 445–446.
Ash Pan Act, 379, 384.
Asia, 528.
Assigned cars, 397–399.
Association of Railway Executives, 481, 488–490, 576.
Atchison, Topeka and Santa Fe Railway, 60, 64–66, 169, 232, 237, 338, 343–344, 348, 455, 594.
Atlanta, Birmingham and Atlantic Railway, 268.
Atlantic and Pacific Railroad, 60.
Atlantic Coast Line Company, 335.
Atlantic Coast Line Railroad, 335, 338, 594.
Attica and Buffalo Railroad, 49.
Auburn and Rochester Railroad, 49.
Australia, 402, 520–521, 528–532, 535, 537, 540.
Austria, 402, 521, 529, 531, 536, 540.
Automatic couplers, 66, 379–382, 405, 510.

Baltimore and Ohio Railroad, 36, 41, 43–47, 50–51, 54, 56, 95, 149–150, 154, 326, 334–335, 337–338, 344, 349–350, 359, 422, 455, 552–553, 594.
Baltimore and Ohio Railroad *v.* United States, 247.
Barron, M. L., 324.
Basford, G. M., 410.
Basing points, 107, 158–161.
Bauer, John, 307.
Belgium, 510, 521, 529, 531–532, 534–536, 540.
Bessemer and Lake Erie Railroad, 403.
Best Friend, 46–47.
Beyer, O. S., Jr., 498.
Billard, J. L., 321.
Bingham and Garfield Railway, 406.
Bismarck, Prince, 536.
Bituminous coal zone plan, 458–459, 469.
Blanket rates, 107, 148, 152, 157–158, 166–168, 170, 182.
Block signals, 385, 387, 510.
Board of Railroad Wages and Working Conditions, 462, 464.
Boiler Inspection Act, 379, 384–385.
Bonbright, J. C., 324.
Bonds, 9, 18–34.
Boston and Albany Railroad, 53, 330, 337.
Boston and Lowell Railroad, 49–51.
Boston and Maine Railroad, 53, 320–321, 357, 359, 422.

Boston and Providence Railroad, 50.
Boston and Worcester Railroad, 49–50, 52–53.
Brakes. *See* Air brakes.
Brandeis, L. D., 307.
Brazil, 402, 529, 531.
Brimson case, 222–223.
Brotherhood of Locomotive Engineers, 61, 412.
Brotherhood of Locomotive Firemen and Enginemen, 412.
Brotherhood of Railroad Signalmen, 412, 472.
Brotherhood of Railroad Trainmen, 412, 421.
Brotherhood of Railway and Steamship Clerks, 412, 472.
Brotherhood of Railway Carmen, 412.
Brotherhood of Stationary Firemen and Oilers, 472.
Brown case, 222–223.
Brown, H. G., 90, 127, 146.
Bryan, J. W., 261.
Buck, S. J., 209.
Bulgaria, 529, 531.
Bureau of Corporations, 124, 237.
Bureau of Railway Economics, 530, 568.
Burgess, K. F., 410, 597.
Business Men's League case, 167.
Burton, Theodore E., 544.
Byram, H. E., 410.

Cable companies, 249.
Camden and Amboy Railroad, 50.
Canada, 402, 529–531, 536–537, 540.
Canadian Northern Railway, 537.
Canadian Pacific Railway, 65, 530.
Canals, 37–43, 47, 51, 53, 56.
Capital stock, 9–19, 29.
Car distribution in periods of shortage, 394–399.
Carloads, 137–139, 405–409.
Car pools, 395–396, 440, 455, 485.
Carroll, Charles, 44.
Cars, 4–5, 63, 66, 239, 241, 393, 403, 438–439.
Car service, 399, 440, 558–559.
Car shortages, 125, 388–399, 589.
Car surpluses, 388–390, 393–394.
Carter, C. F., 68.
Carter, W. S., 431, 461.
Car trust certificates. *See* Equipment obligations.
Central of Georgia Railway, 50, 52, 345.
Central Pacific Railway, 6, 59–60, 169, 325, 339, 342, 349–351, 596–597.
Central Railroad of New Jersey, 334, 357.
Chamberlain, Lawrence, 19, 35.
Chamber of Commerce of the United States, 490, 597.
Charleston and Hamburg Railroad. *See* South Carolina Railroad.
Chesapeake and Ohio Canal, 41.
Chesapeake and Ohio Railway, 337, 420–421, 594.
Chicago and Alton Railroad, 319, 344, 525.
Chicago and Eastern Illinois Railroad, 594.
Chicago and Northwestern Railway, 59, 99, 333, 337, 344, 594.
Chicago, Burlington and Quincy Railroad, 99, 339–340, 342, 347, 414, 591–592, 594.
Chicago, Burlington and Quincy Railroad *v.* Iowa, 200.
Chicago, Indianapolis and Louisville Railway, 335.
Chicago, Milwaukee and Puget Sound Railway, 312.
Chicago, Milwaukee and St. Paul Railway, 67, 312, 339, 343–344, 594.
Chicago, Milwaukee and St. Paul Railway *v.* Minnesota, 196–197.
Chicago, Rock Island and Pacific Railway, 55, 99, 269, 312, 319, 338, 344, 525, 594.
Chicago, St. Paul, Minneapolis and Omaha Railway, 333.
Chicago, West Pullman and Southern Railroad, 123.
Chile, 529, 531.
China, 402, 531.
Cincinnati and Marietta Railroad, 117.
Cincinnati Freight Bureau case, 225–227, 231, 243.
Cincinnati, Hamilton and Dayton Railroad, 319, 525.
Clapp, E. J., 146, 182.
Clark, E. E., 422, 436.
Clark, Victor, 535, 537, 540.
Classification of freight, 120, 128–146, 218, 235, 249, 260.
Clayton Act, 268–271, 409, 484.
Clemenceau, Premier, 537.
Clements, J. C., 154, 316.
Clermont, 38.
Cleveland and Pittsburg Railroad, 55.
Cleveland, Cincinnati, Chicago and St. Louis Railway, 334, 337, 596.
Cleveland, Columbus and Cincinnati Railroad, 55.
Cleveland, F. A., 68, 351, 374, 417.
Cleveland, Grover, 417–418.
Coleman, W. C., 209.
Cole, W. M., 374.
Collateral trust bonds, 23–26, 30, 333–334, 339. *See* also Bonds.

Colorado and Southern Railway, 348.
Combinations, 67, 97, 102, 113, 231–233, 314, 325–351, 356–357, 554–557, 593–597. *See* also Consolidations, Leases, and Stock ownership.
Commerce Court, 176, 256–259.
Commercial value. *See* Market value.
Commodity clause, 242.
Commodity rates, 128, 131–133, 136, 143.
Commodity tariffs, 128–129, 131–132.
Common law, 100, 216, 383.
Common stock. *See* Capital stock.
Compulsory Testimony Act, 222.
Conflict between state and federal authority, 185, 199–209, 323, 484, 488, 490, 495, 553–554.
Connecticut, 322–323.
Consolidated Classification, 130, 144–146.
Consolidated Gas case, 292, 299.
Consolidated ticket offices, 460, 469.
Consolidations, 328–332, 334, 484, 486–490, 497–498, 522, 554–556, 593–597.
Construction companies, 62, 189, 356.
Contingent funds, 491, 550–551.
"Contracting out" of repairs, 581.
Convertible securities, 16, 32.
Cooper, Peter, 46.
Cost of reproduction, 266–267, 276, 278, 288–301, 310–311.
Cotton, J. P., 295.
Council of National Defense, 431, 435.
Counselman case, 221–222.
Couplers. *See* Automatic couplers.
Court decisions, 38, 63, 65, 67–68, 97, 101–102, 114, 164, 176, 192–208, 215, 221–223, 225–231, 238, 242–244, 247–249, 255, 257–258, 265–266, 275 278, 291–292, 294–295, 299, 302–304, 345–351, 360, 380–382, 398, 417–418, 431, 569–570, 574, 596–597.
Crosser, Robert, 526.
Cullom committee, 213–214.
Cumberland Road, 37, 41.
Cumulative dividends, 14–15, 19.
Cunningham, W. J., 410, 423, 431, 447, 477, 597.
Czecho-Slovakia, 531.

Daggett, Stuart, 182, 351, 370, 374, 597.
Davis, James C., 472, 546.
Dayton-Goose Creek case, 596.
Debenture bonds, 30–31. *See* also Bonds.
Debs, Eugene V., 417.
Delaware, 209, 323.
Delaware and Hudson Canal, 41.
Delaware and Hudson Company, 44–45, 422.
Delaware Division Canal, 41.
Delaware, Lackawanna and Western Railroad, 422, 592.
Demurrage, 391, 438, 456–457, 469.
Denmark, 521–522, 529, 531.
Denver and Rio Grande Railroad, 357.
Depreciation, 281, 288–291, 302–303.
Dewing, A. S., 35, 374.
Dewsnup, E. R., 146, 324.
Dining cars, 61, 510.
Director General of Railroads, 208, 546. *See* also McAdoo, W. G. and Hines, W. D.
Dismal Swamp Canal, 39.
Division of excess earnings. *See* Recapture clause.
Dixon, F. H., 209, 248, 261, 271, 351, 431, 447, 477, 498, 563, 597.
Dos Passos, J. R., 230.
Duluth, Missabe and Northern Railway, 403.
Dunn, S. O., 90, 140–141, 146, 261, 324, 410, 506, 518, 532, 535, 544.

Eastman, J. B., 308.
Economies of combination, 232, 327.
Economies of large cars, 405, 407–408.
Economies of large trainloads, 400–401, 403–405.
Economies of steel cars, 409.
Economies of the democratic organization of industry, 494–495, 497.
Economies of unified operation, 454–460, 494, 505.
Economy of government management, 454–460, 504–511.
Economy of service, 375, 400–411.
Effectiveness of regulation, 499, 526.
Egypt, 529, 531, 537.
Elkins Act, 97, 126, 233–236, 240–241.
Elliott, Howard, 436.
Embargoes, 392, 458–459, 559, 589.
Employers' Liability Act, 379, 382–383.
England. *See* Great Britain.
Enlargement of Interstate Commerce Commission Act, 441.
Equipment obligations, 26–28, 30, 362. *See* also Bonds.
Equipment pools. *See* Car pools.
Erdman Act, 418–422, 424–427.
Erie Canal, 39–40, 48–49, 56, 63.
Erie Railroad, 52, 54, 56, 96, 315–316, 325, 354, 359, 422, 594.
Esch-Cummins Act, 12, 22, 68, 87, 103, 113, 127, 165, 180–181, 208, 254, 275, 300, 306, 322, 324, 328, 351, 360, 379, 385, 399, 410, 464, 473, 487–488, 517,

525, 527, 545–563, 566–567, 569–571, 576, 581, 588–590, 593, 595–596.
Esch, J. J., 447.
Esch-Pomerene Act, 399, 440–441, 558.
Europe, 528.
Expedition Act, 233, 236.
Express companies, 238.

Failures, 63, 66, 212, 318, 341, 353–374.
Fair rate of return, 265, 275, 277, 292–293, 298–299, 303–307, 317, 322, 547–549, 567–568, 578–579, 588.
Fair value of the property, 265–266, 275–302, 547–549, 567.
Farmers, 62, 187–188, 211–212, 588.
Federal Control Act, 208, 448–450, 474.
Federal Employers' Liability Act. *See* Employers' Liability Act.
Federal incorporation, 487, 489–490, 492.
Federal Trade Commission, 122.
Federal Transportation Board, 490–491.
Financial results of government operation, 466–467, 472–476.
Fink, Albert, 98.
Finland, 531.
Fisher, C. O., 432.
Floating debt, 359, 365.
Foreclosure, 24, 367–368, 370, 372–373.
Foreign experience, 499, 528–541.
France, 402, 510, 519, 522, 529, 531, 537.
Franchise value, 292, 297, 299–300.
Freight Tariffs, 128–129.
Freight traffic committees, 465, 469.
Fuel Administration, 458–459.
Fulton, Robert, 38.

Gadsby, Margaret, 432, 597.
Galena-Signal Oil Company, 124.
Garner, J. W., 351.
Garretson, A. B., 496.
Gauges, 49, 51, 66, 325.
Georgia, 54, 57–58.
Georgia Railroad, 50, 52, 335.
Germany, 402, 431, 435, 501, 510, 519–521, 528–532, 536–540.
Going value, 292, 297–299.
Good will, 292, 297, 300.
Gould system, 338, 356–357.
Government operation during the war, 68, 208, 377, 396, 448–477, 483, 513.
Government ownership and operation, 410, 482–483, 498–544, 563.
Grade crossings, 386.
Grand Trunk Pacific Railway, 537.
Grand Trunk Railway, 95–96, 537.
Granger cases, 63, 192–198, 200–201, 275.
Granger movement, 62, 187, 190, 192.
Grant, Ulysses S., 211.
Gray, J. H., 308.
Great Britain, 12, 386–387, 402, 510, 513, 522, 531, 540, 594.
Great Northern Railway, 13, 66, 136, 232, 339–342, 344–347, 591–592, 594.
Greece, 529, 531.
Greene, T. L., 35, 374.
Guarantee, 444, 449, 466, 472–474, 486, 546–547, 549–550, 564–565, 568.

Hadley, A. T., 44, 68, 90, 92, 104, 115, 260–261, 533.
Haines, H. S., 261, 407.
Hammond, M. B., 261.
Hannibal and St. Joseph Railroad, 55.
Harding, Warren G., 3, 517, 582–583, 587.
Harriman, E. H., 232, 339, 341–345, 347.
Harrison, Fairfax, 436, 447.
Hartman, H. H., 308.
Hayes, H. V., 308.
Hays, Will, 507.
Heilman, R. E., 324.
Henderson, G. C., 308.
Hepburn Act, 102, 124, 127, 202, 231–250, 255, 260, 263, 398.
Hill, James J., 340, 347, 404.
Hines, W. D., 451, 454, 467–472, 474–477, 481, 485–488, 546–547, 564–566.
Hocking Valley Railway, 403.
Holcombe, A. N., 519, 533, 544.
Holden, Hale, 436.
Holding companies, 270, 335, 347–348.
Holland, 522, 529, 531.
Hooper, B. W., 583, 597.
Hooper, W. E., 544.
Hours of Service Act, 379, 383–384.
House of Representatives, 143, 212, 217, 219, 236–237, 259, 269, 324, 429, 545.
Hoxie, R. F., 415.
Hudson River Railroad, 54, 58, 326, 328.
Huebner, G. G., 182.
Hughes, Charles E., 237, 430, 526.
Hungary, 519, 531.
Hungerford, Edward, 447.

Illinois, 41, 54, 57–58, 62, 64, 67, 189–190.
Illinois Central case, 247, 257–258, 398.
Illinois Central Railroad, 55, 57, 344, 420–421, 594.
Illinois-Michigan Canal, 41.
Illinois Northern Railway, 123.
Import rate case, 227–228.
Income bonds, 20, 28–30. *See* also Bonds.

Increasing returns, law of, 71–82, 92, 103, 108, 116.
India, 402, 529, 531.
Indiana, 54, 57.
Industrial railways, 123–124, 127, 240–241.
Injunctions, 97, 250, 583.
Insolvency. *See* Failures.
Intercolonial Railway, 536.
Interlocking directorates, 269, 484, 556–557.
International and Great Northern Railway, 354.
International Association of Machinists, 412.
International Brotherhood of Electrical Workers, 412.
International Harvester Company, 123–124.
Interstate Commerce Commission decisions, 107, 114, 138–139, 154, 158, 164–167, 175–182, 205–207, 226, 228–229, 252–254, 306, 398, 475, 566–569, 578–580, 589–593, 597.
Interstate Commerce Commission *v.* Chicago, Rock Island and Pacific Railway, 247.
Interstate Commerce Commission *v.* Union Pacific Railroad, 247–248.
Iowa, 58, 62, 64, 191.
Ireland. *See* Great Britain.
Iron rails. *See* Steel rails.
Italy, 515, 520, 529, 531–534, 537.

Japan, 402, 529, 531–532, 535–536, 540.
Johnson, E. R., 8, 68, 90, 104, 182, 209, 324, 351, 410, 532, 534, 544.
Joint cost, law of, 82–89, 92–93, 108–109, 116, 133–134.
Joint Traffic Association, 96.
Joint Traffic Association case, 97, 101–102, 345.
Jones, Eliot, 104, 119, 338, 350.
Judicial interpretation. *See* Court decisions.

Kanawha and Michigan Railway, 596.
Kansas, 64.
Knapp, M. A., 8.
Knights of Labor, 414–415.
Knoop, Douglas, 146.
Knoxville *v.* Knoxville Water Company, 288.
Kruttschnitt, Julius, 436.

Labor, 410–431, 460–464, 470–473, 475, 489–491, 493–496, 499, 501, 511, 515–520, 541.
Labor disputes, 68, 240, 411–431, 470–471, 498, 560–562, 565–566, 571–578, 580–588.
Labor organizations. *See* Unions.
Lagerquist, W. E., 35.
Lake Shore and Michigan Southern Railway, 58, 96, 314, 326–328, 333–335, 337–338, 355.
Lane, Franklin K., 461, 526.
Larrabee, William, 104.
Latvia, 531.
Leases, 330–332, 350, 554, 556, 596.
Lee, W. G., 586–587.
Lehigh Canal, 41.
Lehigh Valley Railroad, 11, 357, 455, 594.
LeRossignol, J. E., 524.
Leroy-Beaulieu, Pierre, 508.
Lewis, D. J., 544.
Liverpool and Manchester Railroad, 45.
Livingston, Robert, 38.
Living wage, 585–586.
Loans to railroads, 546, 550–551, 564.
Local discrimination, 8, 62–63, 65, 105–114, 133, 147, 153, 166–167, 171–173, 187, 213, 229, 521–523, 552–553.
Locomotives, 45, 63, 66, 403–405, 438–439, 510.
Long and short haul clause, 113–114, 156–158, 164–166, 175, 180–182, 216–217, 227–230, 249, 255–256, 552.
Long Island Railroad, 337.
Los Angeles and Salt Lake Railroad. *See* San Pedro, Los Angeles and Salt Lake Railroad.
Lough, W. H., 35, 374.
Louisville and Nashville Railroad, 335, 338, 592, 594.
Lovett, R. S., 442, 466, 514.
Lyon, W. H., 35, 374.

McAdoo, W. G., 448, 451–454, 460–464, 467–469, 477, 481–483, 513–514.
McCabe, D. A., 432.
McChord, C. C., 444–445.
McPherson, L. G., 182.
Magee, J. D., 498.
Magnusson, Leifur, 432.
Mahaim, Ernest, 534.
Mann Elkins Act, 103, 114, 141, 158, 164, 166, 175, 249–261, 263, 265, 269, 275, 324, 454, 548, 552, 554.
Market competition, 147–148, 170–171, 175, 178.
Market value, 266, 276, 278–280, 290, 294–295, 316.
Markham, C. H., 452.
Maryland, 41, 51.
Massachusetts, 49–50, 52, 57, 61, 186, 321–323.
Mather, Robert, 182.
Maximum Freight Rate case. *See* Cincinnati Freight Bureau case.

Maximum rates, 186, 243–244, 250, 260.
Mead, E. S., 35, 374.
Mellen, C. S., 320.
Merchants and Miners Transportation Company, 320.
Mergers. *See* Consolidations.
Mexico, 529, 531.
Meyer, B. H., 230, 352, 498.
Meyer, H. R., 524.
Michigan, 57, 62, 64.
Michigan Central Railroad, 53, 55, 337.
Michigan Southern Railroad, 55.
Middlesex Canal, 39, 51.
Midgley, J. W., 143.
Midnight tariffs, 121–122.
Minimum rates, 103, 249, 261, 484, 489, 498, 552, 556.
Minnesota, 62, 190–191, 203–205.
Minnesota rate cases, 203–205, 207–208, 277, 294–295, 302.
Missouri, Kansas and Texas Railway, 314, 354, 594.
Missouri Pacific Railroad, 357, 359, 594.
Mitchell, T. W., 35, 352.
Mobile and Ohio Railroad, 57.
Mohawk and Hudson Railroad, 44, 48–49.
Moody, John, 209, 352.
Morgan, J. P., 318–320, 338, 340, 347.
Morris Canal, 41.
Morrissey, P. H., 422.
Mortgage bonds, 21–24, 26–28, 30. *See* also Bonds.
Munn *v.* Illinois, 192, 194, 200.

National agreements, 471–472, 572–575.
National Association of Railway Commissioners, 142.
National Transportation Conference, 481, 490–491.
Nebraska, 64.
Nevada Railroad Commission case, 176.
New England, 52, 148–149, 157, 319, 336, 594.
Newlands Act, 419, 426–428.
New York, 39, 42, 48, 50, 52, 54, 58, 62, 64, 526.
New York and New Haven Railroad, 53.
New York Central Railroad, 49, 54, 56, 58, 95–96, 149–150, 295, 314–316, 325–328, 330, 333–338, 344, 355, 405, 422, 594, 596.
New York, Chicago and St. Louis Railroad, 96, 327, 334, 337, 355, 594.
New York, New Haven and Hartford Railroad, 269–270, 318–323, 336, 350, 358, 422, 525.
New York Public Service Commission for the First District, 295.
New York, Westchester and Boston Railway, 319.
New Zealand, 524, 529–531, 537.
Nickel Plate Railroad. *See* New York, Chicago and St. Louis Railroad.
Norfolk and Western Railway, 337, 594.
North Carolina, 57.
Northern Pacific Railway, 60, 64, 232, 293, 339–342, 344–348, 356, 368, 591–592, 594.
Northern Securities case, 345–349.
Northern Securities Company, 336, 338–342, 344–347.
Northwestern Pacific Railroad, 343.
Norway, 522, 529, 531.
Notes. *See* Bonds.
Noyes, W. C., 90, 104–105, 115, 127, 146, 230.

Ohio, 41–42, 54, 58, 61–62, 64.
Oklahoma, 67.
Operating results of government operation, 465–466.
Operating train rules, 385, 387.
Order of Railroad Telegraphers, 412.
Order of Railway Conductors, 61, 412, 421.
Oregon Railway and Navigation Company, 65, 341.
Oregon Short Line Railroad, 65, 341–342, 344–345, 350.
Original cost of construction, 266–267, 276, 278, 280–287, 293, 298–299, 301, 309, 311.
Overcapitalization, 65, 214, 266, 295, 309–315, 317, 330, 354, 357–358, 370–371, 485, 525, 555.
Overhead charges, 292, 296–297.
Overtime rates of wages, 463, 574.

Pacific Coast lumber case. *See* Interstate Commerce Commission *v.* Union Pacific Railroad.
Pacific Fruit Express, 344.
Pacific Mail Steamship Company, 342.
Panama Canal, 55, 114, 132, 178–179, 262–263.
Panama Canal Act, 262–264.
Panama Railroad, 530.
Parlor cars, 61.
Parmalee, J. H., 447.
Parsons, Frank, 127, 521–522, 544.
Participating stock, 15–16, 18.
Passes, 189, 216, 242–243.
Payne, John B., 472, 546.
Peik *v.* Chicago and North-western Railway, 200–201.
Pennsylvania, 37, 40, 47–48, 50, 52, 54, 57–58, 62, 64, 67.

Pennsylvania Railroad, 11, 53–56, 58, 61, 95–96, 124–125, 149, 154, 237, 326, 330, 334–338, 349–350, 405, 422, 455, 506, 552–553, 574, 594, 596.
Per diem, 395, 460.
Pere Marquette Railway, 319, 525, 594.
Permit system, 458, 466, 469.
Personal discrimination, 8, 62–63, 65, 116–127, 133, 213–214, 216, 232–234, 240–244, 521–522.
Peru, 529, 531.
Philadelphia and Columbia Railroad, 47, 54.
Philadelphia and Reading Coal and Iron Company, 335.
Philadelphia and Reading Railway, 11, 48, 334, 354, 357–359.
Piece work, 464, 573–574.
Pipe-lines, 238.
Pittsburg, Fort Wayne and Chicago Railroad, 55, 58, 330.
Pittsburgh and Lake Erie Railroad, 403.
Pittsburgh, Bessemer and Lake Erie Railroad, 408.
Pittsburgh, Cincinnati, Chicago and St. Louis Railway, 596.
Plumb, G. E., 491, 495, 498.
Plumb plan, 468, 481, 491–497.
Poland, 531.
Policies of U. S. Railroad Administration, 453–465, 469–472.
Politics, 7, 452, 494, 499, 506–507, 511–516, 518–519, 523, 541–542.
Pools, 63, 65, 96, 98–100, 102, 214, 217, 221, 231, 327, 351, 489, 497–498, 554, 556.
Port differentials, 152–155.
Portugal, 529, 531.
Powell, F. W., 68, 351, 374.
Power brakes. *See* Air brakes.
Preferred stock. *See* Capital stock.
Principal developments since passage of Esch-Cummins Act, 564–597.
Priority Act, 441–442.
Private cars, 122–123, 127, 241, 397–398.
Private operation during the war, 435–447.
Prouty, C. A., 121, 234, 293.
Prussia. *See* Germany.
Pujo committee, 270.
Pullman Company, 396, 417. *See* also Sleeping cars.
Pullman strike, 415, 417–418.

Railroad Boards of Labor Adjustment, 560–562, 571–573, 581.
Railroad Labor Board, 471, 473, 560–562, 564–566, 572–578, 580–588.
Railroad Labor Board decisions, 473, 565–566, 573–576, 580–582, 584–586.
Railroad Securities Commission, 260, 302, 322, 324.
Railroads' War Board, 435–436, 438–441, 443–445, 451–452, 454, 456–457.
Railroad Wage Commission, 461–462.
Railway boards of adjustment, 463–464.
Rate agreements, 63, 97–98, 101–102, 231, 327, 345, 489.
Rate increase cases, 252–254, 266, 548, 566–569.
Rates and rate making, 71–182.
Rates, theory of, 71–89, 108.
Rates under government ownership and operation, 521–525.
Rate systems, 107–108, 147–182.
Rate wars, 63, 95–97, 150, 169–170, 355, 552.
Rea, Samuel, 436.
Reading case, 350.
Reading Company, 287, 334–335, 338.
Reagan *v.* Farmers' Loan and Trust Company, 197–198.
Reasonable rates, 194–198, 264–265, 275–307.
Rebates. *See* Personal discrimination.
Recapture clause, 12, 486–487, 491, 498, 550–551, 556, 593, 596.
Receivers' certificates, 363–364, 366.
Receiverships, 31–34, 94, 318, 331, 353–374, 525.
Reconsignment, 391–392.
Redeemable securities, 18, 20, 32.
Regional commerce commissions, 487–488.
Regulation of intrastate rates, 204–205, 208, 261, 488, 498, 553–554.
Regulation of securities, 202, 249, 260–261, 269, 307, 309–324, 354, 371, 484, 489–490, 498, 525, 557–558, 590–593.
Reorganization, 30, 314–315, 353–374.
Reorganization plan, 362–374.
Reports, 220–221, 239.
Richberg, D. R., 308.
Rich, E. J., 563.
Right of judicial review, 185, 194–199, 275.
Right to regulate, 185–194, 197.
Ripley, W. Z., 35, 68, 90, 104, 115, 127, 146, 156, 182, 230, 248, 261, 308, 324, 352, 374, 593.
River and Harbor bill, 514.
Rivers, 37–39, 53.
Robbins, E. C., 432.
Rocket, 45–46.
Roosevelt, Theodore, 236–237.
Roumania, 529, 531.
Ruggles, C. O., 410.

Ruinous competition, 63, 91–104, 212, 330, 354–356.
Rule of rate making, 302, 489, 491, 498, 547–550, 561, 566–567, 588, 593.
Russia, 506, 529–531, 536, 540.

Sacramento Valley Railroad, 55.
Safety Appliance Act, 66, 379–382.
Safety of service, 202, 375–388, 400, 500–501, 558.
Sailing day plan, 457.
St. Louis and San Francisco Railway, 319, 354, 356, 359, 525, 594.
St. Louis Southwestern Railroad, 594.
St. Louis Terminal Association case, 348.
Sakolski, A. M., 35, 410.
San Pedro, Los Angeles and Salt Lake Railroad, 67, 268, 342–343, 348.
Santee Canal, 39.
Schumacher, Hermann, 537.
Schuylkill Canal, 41.
Seaboard Air Line Railway, 594.
Secretary of Transportation, 489.
Securities. *See* Regulation of securities.
Senate, 143, 211–213, 217, 219, 237, 244, 259, 324, 429, 545.
Seniority privileges, 415, 574, 582–584.
Serial bonds, 28, 32.
Service, 68, 202, 237, 261, 317, 375–410, 498, 554, 558–559, 589–590.
Sharfman, I. L., 209, 248, 432, 447, 477, 498, 523, 544, 563.
Sherman Anti-trust Act, 101, 231–232, 319, 336, 343, 345, 351, 556, 596.
Shipping Act, 263.
Shopmen's strike, 393, 412, 505, 516, 572, 580–586, 590.
Showalter, W. J., 8.
Shreveport rate cases, 203, 205–208.
Siam, 531.
Sleeping cars, 61, 238, 510.
Smalley, H. S., 209, 248.
Smith, A. H., 452.
Smyth *v.* Ames, 265–266, 276–277.
Social Circle case, 225.
Solid trainload plan, 457–458, 469.
Solutions of the railroad problem, 481–498.
South Carolina Railroad, 46–47, 50–51, 129.
Southern Pacific-Central Pacific case, 350–351.
Southern Pacific Railroad, 60, 64, 66, 232, 311, 342–345, 348–351, 455. 594, 596–597.
Southern Railway, 335, 338, 488, 594,
Southern Railway and Steamship Association, 96, 98–99.
Southern rate system, 107, 157–166.
Spain, 531.
Spokane case, 167, 172, 176.
Standardization of cars and locomotives, 459–460, 485, 509.
Standardization of wages, 416, 420, 422, 424–425, 464, 471.
Standard Oil Company, 117, 122, 124, 237–238.
Standard return. *See* Guarantee.
State legislation. *See* State regulation.
State regulation, 185–209, 379.
Steel cars, 408–409.
Steel rails, 61, 63, 66, 405, 510.
Stephenson, George, 45.
Stetson, F. L., 320, 374.
Stevens, John, 44.
Stock. *See* Capital stock.
Stock dividends, 313–314, 591–592.
Stock ownership, 329, 332–336, 348, 350, 489, 554, 556, 596.
Stone *v.* Farmers' Loan and Trust Company, 195–196, 201.
Store door delivery, 457.
Stourbridge Lion, 45–46.
Strikes, 68, 414, 417–418, 429–431, 470, 496, 501, 505, 516, 519–520, 541, 562, 565, 576–578, 580–586, 589–590.
Strombeck, J. F., 146.
Strong roads. *See* Weak roads.
Suspension of proposed changes in rates, 103, 249–252, 275, 548, 554.
Swayze, F. J., 209.
Sweden, 522, 529, 531.
Switzerland, 402, 515, 519–521, 529, 531–533, 536, 538, 540.
Syracuse and Auburn Railroad, 49.

Taft, William Howard, 256, 324.
Tajani, Filippo, 534, 537.
Taussig, F. W., 90, 432.
Telegraph companies, 249.
Telephone companies, 249.
Terminals, 239, 241, 348, 392, 405, 408, 438, 455, 485, 559.
Texas, 62, 64, 67, 205–206.
Texas and Pacific Railway, 60, 64.
Texas Midland Railroad, 268.
Thelen, Max, 324, 469, 477.
Todd, A. M., 544.
Toledo and Ohio Central Railway, 596.
Toledo, St. Louis and Western Railroad, 354.
Tom Thumb, 46.
Tonawanda Railroad, 49.
Traffic associations, 67, 96–98, 100–102, 327.
Trainloads, 66, 77, 381–382, 400–406, 408.
Tramways, 43–44.
Transcontinental cases of 1922, 180–182.

Transcontinental rate system, 107–108, 166–182.
Trans-Missouri Freight Association, 96.
Trans-Missouri Freight Association case, 97, 101–102, 345.
Transportation Act. *See* Esch-Cummins Act.
Transportation of Explosives Act, 379, 384.
Trespassing, 377, 386, 501.
Trunk line rate system, 148–157.
Trusts, 233–234, 236.
Turkey, 531.
Turnpikes, 37.

Underwriting syndicates, 367–368, 373.
Uniform classification, 129, 131, 141–146, 221.
Union of South Africa, 521, 531, 537.
Union Pacific Railroad, 6, 59–60, 65, 96, 169, 232, 311, 325, 336, 338–345, 348–350, 594, 597.
Union Pacific-Southern Pacific case, 345, 348–350.
Unions, 61, 411–415. *See* also Labor and Labor disputes.
United Brotherhood of Maintenance of Way Employees, 412, 472.
United States Board of Mediation and Conciliation, 427–429.
United States Railroad Administration. *See* Government operation during the war.
United States Steel Corporation, 506.
Universal mileage book, 460.
Utah Copper Company, 406.
Utica and Schenectady Railroad, 49.
Utica and Syracuse Railroad, 49.

Valuation, 249, 261, 276–302. See also Valuation Act.
Valuation Act, 262, 264–268, 295.
Valuation of land, 290, 293–296.
Vanderbilt, Cornelius, 58, 326.
Vanderbilt, F. W., 333.
Vanderblue, H. B., 308, 410, 597.
Van Metre, T. W., 8, 68, 90, 104, 209, 324, 351, 410, 532, 534, 544.
Vermont Central Railroad, 354.
Victoria. *See* Australia.
Virginia, 41, 57–58.
Virginian Railway, 403–407.
Vrooman, Carl S., 502, 544.

Wabash case, 65, 201–202, 204, 215.
Wabash-Pittsburg Terminal Company, 357.
Wabash Railway, 354, 357.
Wages. *See* Labor and Labor disputes.
Washington, George, 36, 41.
Water competition, 42–43, 51, 53, 56, 63, 108, 114, 132–133, 150–151, 159–160, 164–165, 169–170, 173–174, 176–181, 256, 261, 263, 355, 552.
Watered stock. *See* Overcapitalization.
Weak roads, 486, 550–551, 556, 593, 595.
Western and Atlantic Railroad, 54.
Western Maryland Railway, 357.
Western Pacific Railroad, 67, 357, 455.
Western Railroad, 52–53.
West Shore Railroad, 96, 327, 330, 355.
Wheeling and Lake Erie Railway, 357.
Whitten, R. H., 296, 308.
Wilcox, D. F., 544.
Willard, Daniel, 436, 551.
Wilson, Woodrow, 208, 269, 426–427, 429–431, 445–448, 461, 468, 470–472, 475, 481, 545, 565.
Windom committee, 211–212.
Wisconsin, 191, 202.
Wisconsin Central Railroad, 356, 368.
Wisconsin Passenger Fares case, 569–570.